Society of Automotive Engineers of Japan, Inc.

# Rules and Guidelines for Speakers -JSAE Symposium -

		Page
1.	Symposium Text - Manuscript Drafting Procedure-	1-3
2.	Presentation Equipments	4
3.	Category Code & Keywords	5-12
4.	JSAE Copyright Rules	13-14

### Attachments

- Sample of Manuscript
- Entry Form for Bibliographic Items
- Copyright Agreement

# 1. Symposium Texts - Manuscript Drafting Procedure

# 1. Format and Preparation of Manuscript

- 1.1. **Official Languages:** Japanese or English (This is an instruction for the English manuscript)
- 1.2. Format
  - (1) Two columns layout / 47 lines per column
  - (2) Column height 247mm / Column width 83mm / 8mm between left and right columns.
  - (3) Top and bottom margins 25mm / Left and right margins 18mm.
  - (4) <u>Total of 5-6 pages</u> is advisable.
- 1.2.1. Manuscript: (Please refer to Sample of Manuscript)
  - (1) Main Title:
    - => 16-point, Times New Roman, Upper and Lower Case
  - (2) **Subtitle:** Avoid using a sub-title as much as possible, unless a sub-title is necessary for a supplementary explanation. Place a dash "-", at the beginning and the end. => 11-point, Times New Roman, Upper and Lower Case
  - (3) Authors' Names: Put the presenter's name first (first and last names). If any co-authors exist, list up the authors only those contributions to the research considered as prominent. Job titles and positions should be omitted. Append to each author's name a superscripted footnote number followed by a right parenthesis, to indicate his/her affiliation (place of employment) in the below.
    - Examples: Taro Jidosha 1) Barack Hussein Obama, Jr. 2) => 9-point, Bold, Times New Roman
  - (4) **Author's Affiliation (Place of Employment)**: State the place of employment, department etc., where the research was carried out. Use abbreviations such as "Co., Ltd.", "Corp.". If there is any change in an author's affiliation, state the affiliation where he/she belongs at the time of submission. If there are multiple authors with different affiliations, give each author a number that indicates each affiliation.
    - => 9-point, *Italic*, Times New Roman
  - (5) **Symposium Date:** State the name of the symposium and the presentation date.
    - => 9-point, Times New Roman
  - (6) **Keywords:** Select one keyword from "Category 1" from the table (see page 6-12). Also select one keyword from each of "Category 2" and "Category 3". => 9-point, Bold, Times New Roman
    - If you are unable to find appropriate keywords from "Category 2" and "Category 3", you can pick keywords from the title or main text. (see page 5) => 9-point, Times New Roman
    - Insert a slash "/", between the "Standard" and "Author-selected" keywords.
  - (7) **Category Code:** Select one from the "Category Codes" (see page 6-12), and enter it as a classification code, in parentheses after the keywords. => 9-point, Times New Roman
  - (8) **Main Text:** => 9-point, Times New Roman
  - (9) Figures (and Photographs) and Tables: Place figure titles "below" the figures, and table titles "above" the tables. Use the consecutive numbers for figures and tables. Examples: Fig. 1 Fig. 2 Table 1 Table 2 Titles => 9-point, Times New Roman Characters in figures and tables => 7-point or larger
  - (10) **References:** References are listed after the main text of the manuscript. Where a reference is cited, enter the superscripted number of the reference in parentheses at the appropriate location in the text. The format for reference entries is described in SIST 02-1997. => 9-point, Times New Roman

# 1. Symposium Texts - Manuscript Drafting Procedure

#### (11) Other Important Information:

- I **Headings:** Assign numbers to chapters, sections and sub-sections. Each number should be a combination of Arabic numeral(s) and period(s), which will be described as "1.", "1.2." and "1.2.1". As a rule, up to three levels of headings can be used.
- II **Abbreviations:** Where an abbreviation is used, use the original term, regardless of whether it is a common noun or proper noun. If the abbreviation is not in general use, when the first time the term appears in the text, use the unabbreviated term followed by the abbreviation in parentheses. Use the abbreviation in all subsequent cases. The character style should be normal.
- III **Technical Terms:** Technical terms shall conform to the technical terms established by the Ministry of Education, as well as to the terminology standards of JIS and JASO. Non-technical terms shall also conform to the terms established by the former Ministry of Education, where applicable. Where the official terms are not applicable, use appropriate common expressions.
- IV Column Identification (Digit Number): Where a large number is used, place a comma after every third digit, moving leftward from the decimal point.
- V SI: Use the International System of Units (SI). For important numerical values, the conventional units may also be used.
- VI Symbols: See JIS Z 8202 (Quantities and units) for quantity symbols, JIS Z 8201 (Mathematical symbols) for mathematical symbols, the International Chemical Symbols for chemical symbols, and JIS B 0001 (Technical drawings for mechanical engineering) for drawing symbols.
- VII **Mathematical Equations:** Mathematical equations must be written within the width of a single column and cannot run over the next column. If the equations are numbered sequentially, place the numbers in parentheses to the right of the equations. Refer to the equations in the text as Equation (1), Equation (2) and so on. Letters and symbols used to indicate equations and physical quantities shall be in italics and units shall be in roman.

# 2. Preparation of Manuscript

#### 2.1. **Print Color:**

Symposium Text will be printed in color.

#### 2.2 **Printing Paper:**

Bond paper (white) or recycled paper (70% whiteness) should be used for printing if you submit your manuscript in print.

#### 2.3 Pages:

5-6 pages

#### 2.4 Submission of Copies:

(1) Please submit your manuscript in PDF by email.

NOTE: Please note that the submitted manuscript will be the layout paper for printing. Therefore please make sure that all fonts are embedded. The manuscript received will be printed as it is without being edited and corrected.

(2) If you are unable to submit the manuscript in PDF, please send it in prints by airmail.

Address: Event Administration Team,

Society of Automotive Engineers of Japan, Inc.

10-2 Gobancho, Chiyodaku Tokyo, 102-0076 Japan

# 3. Proofreading

The Society of Automotive Engineers of Japan (JSAE) will not proofread manuscripts. Please thoroughly check your manuscript before submitting it.

# 1. Symposium Texts - Manuscript Drafting Procedure

# 6. Copyright (Submission of Copyright Agreement)

Please submit "Copyright Agreement" with your manuscript.

## 7. Manuscript Information (Submission of Entry Form Bibliographic Items)

Please submit "Entry Form for Bibliographic Items" with your manuscript. The information may be utilized for the promotional purpose of the manuscript.

## 8. Points to Verify Before Submission

The Society of Automotive Engineers of Japan (JSAE) will not proofread manuscripts. Please thoroughly review the following items before submitting your manuscript.

- (1) Is the presenter's name listed first among the authors?
- (2) Has a superscripted footnote number been placed after the name of each author?
- (3) Has the name and address of the affiliation been stated? Has the presentation date been stated?
- (4) Are there any missing or duplicate numbers in the drawings, tables and photos? Do the numbers correspond to the numbers used in the text?
- (5) Will the manuscript be printed in black and white properly? Will shaded or colored drawings and tables printed without any problem?
- (6) Have you filled out the "Copyright Agreement"?
- (7) Have you filled out the "Entry Form for Bibliographic Items"?

# 2. Presentation Equipments

# 1. On-site Equipments

#### 1.1. Equipments (available at no charge)

- (1) Screen and projector
- (2) Laser-pointer
- (3) Microphone or clip-on microphone

#### 1.2. **Equipment Operation**

Please bring your own laptop PC and operate by yourself during the presentation.

#### 1.3. Personal Computer Brought to the Presentation

- HDMI interface is required to the PC. For use the PC not having this interface, the speaker is requested to bring the convertor by his/her own.
- (2) Screen Resolution: 1024 x 768 and over
- (3) Please bring your presentation data with you in a USB memory stick, in case any problem should occur.
- (4) Please verify at the site prior to the Symposium that your laptop is compatible with the projector. Please consult with the projectionist in the presentation room when to try out.
- (5) Availability of PC audio-output must be secured in advance. Please consult with the JSAE at an early stage (availability is not secured).

# 3. Category Codes and Keywords

Every author is requested to provide keywords that match to the contents of the manuscript. Use of keywords helps us when conducting literature-searches.

Literature-search is available via internet at JSAE ON-DEMAND LIBRARY http://www.bookpark.ne.jp/jsae/book\_e.asp.

# 1. Category Code

Select one from "Category Code" from the table (see page 6-12).

# 2. Keyword

#### 2.1. Standard Keywords

Select one keyword from "Category 1" from the table. Also select one keyword from each of "Category 2" and "Category 3" (see page 6-12).

#### 2.2. Author-selected Keywords

If you are unable to find appropriate keywords from the table, please pick keywords from the title or main text. These "Author-selected" keywords must be noun forms that have specific meanings and are narrowly defined as possible. Compound words and phrases must be terms that are widely used in the particular field or that are in common use

ssible	e. Compound words and p	hrases mus	t be terms that are widely used in the particular field or that are in com
mon	use.		
(1)	Select phrases that have spe × Critical, Speed × Life	ecific meanir => =>	ogs and are as narrowly defined as possible.  Our Critical Speed  Tool Life, Our Fatigue Life
(2)	$ \begin{tabular}{ll} Use noun forms. \\ \times Studied Experimentally \\ \end{tabular} $	=>	oExperimental Study
(3)	Limit the use of abbreviation terms shall not be used.  × A T C	ons to those =>	that are widely used in the particular field, globally. As a rule, author-invented • Automatic Tool Change, • Automatic Train Control
(4)	Compound words and phrase × Fatigue Strength at Elevar		ones that are commonly used.  ture  • Fatigue Strength, Elevated Temperature
(5)	Spell out the full names of a × Cr Mo Steel × Al 203 × Cu		ical compounds, elements and nuclides instead of using symbols.
(6)	Where there are multiple we	ords with the	e same or similar meanings, choose the most concise and frequently-used one.

(7) If you are unsure of whether to include or delete any content, include it.

# 3. Writing a Manuscript

As a rule, when writing a manuscript in English, capitalize the first letter of a sentence and use lower case for the rest. However, upper case may be used where necessary to convey the particular meaning.

# 3. Category Codes and Keywords

	目的·分野 Purpose/field	目的の対象 (もの、ハードおよびソフト)	Objects/hardware/software	手法・内容および技術要素	Means/details/component technologies
分類 Category Code	第1カテゴリー Category 1	第2カテゴリー	Category 2	第3カテゴリー	Category 3
	①熱機関	圧縮着火機関	compression ignition engine	計測/診断/評価	measurement/diagnosis/evaluation
	heat engine	火花点火機関 予混合圧縮着火	spark ignition engine homogeneous charge compression	数値計算 設計/制御	numerical calculation design/control
		新型機関	ignition new combustion model/new combustion model engine	理論/モデリング	theory/modeling
		ロータリ機関	rotary engine/rotary combustion engine	性能/燃費/効率	performance/fuel economy/efficiency
		スターリング機関 ガスタービン/蒸気タービン	Stirling engine gas turbine/steam turbine	燃焼解析	combustion analysis
		エンジン部品・要素	engine component or element	排出ガス/有害排出物	emissions gas/harmful emissions
		ターボチャージャ/VGターボ	turbocharger/variable geometry turbo	燃料噴射/燃料噴霧	fuel injection/fuel spray
		スーパーチャージャ	supercharger	吸排気	intake and exhaust
44.45		可変動弁機構	variable valve train	過給	supercharging
(A1)		エンジン補機類 ターボコンパウンド	engine accessory	混合気形成/ガス流動	mixture formation/gas flow
		後処理システム	turbo compound post treatment system	燃料改善/燃料改質 添加剤	fuel improvement/fuel reforming additive
		正元触媒	three-way catalyst	がカロタリ	additive
		deNOx触媒/SCR脱硝/NOx 還元触媒 (*)	de-NOx catalyst/selective catalytic reduction NOx removal/NOx	潤滑/トライボロジー	lubrication/tribology
		微粒子フィルタ	reduction catalyst particulate filter	振動/騒音	vibration/noise
		燃料/代替燃料	fuel/alternative fuel	冷却	cooling
		ガソリン/軽油/灯油/重油	gasoline/light oil (gas oil/diesel oil) /heavy oil		
		エタノール/BDF (*) LPガス/天然ガス/水素	ethanol/bio-diesel fuel liquefied petroleum gas/natural		
		DME/FT合成油 (*)	gas/hydrogen dimethyl ether/Fischer-Tropsch synthetic oil		
		潤滑油/エンジンオイル	lubricating oil/engine oil		
	②動力伝達系	発進システム	start control system	加工	machining
	power transmission	変速機	transmission	材料	material
		デファレンシャル/終減速機	differential/final reduction gear	強度	strength
		MT	manual transmission automatic transmission	疲労	fatigue
		AT	automatic transmission continuously variable transmission	機構	mechanism
		CVT (*) AMT/DCT (*)	automated manual		
		AMI/DCI ( )	transmission/dual clutch		
		新型トランスミッション	new type transmission		
		動力分配システム	transfer		
		AWDシステム (*)	all-wheel drive system		
(A2)		ハイブリッドシステム 駆動軸/ジョイント	hybrid system drive axle/joint		
		クラッチシステム	clutch system		
		歯車/ギアシステム	gear/gear system		
		ドライブトレイン	drivetrain		
		ベルトドライブ/トラクションド	belt drive/traction drive/chain		
		ライブ/チェーンドライブ	drive		
		制御システム 油圧システム	control system hydraulic equipment		
		同期機構	synchromesh		
		軸受	bearing		
1		潤滑油/トランスミッションオイ	lubricating oil/transmission oil		
<b></b>	③EV・HVシステム (*)	モータ	motor	モータ特性	motor characteristics
1	EV and HV systems	モータ駆動システム	motor drive system	電気動力変換	electric power conversion
		インバータ/コンバータ	inverter/converter	エネルギー回生	energy regeneration
		パワーコントロールユニット	power control unit	システム技術	system technology
		電池技術 リチウムイオン電池/ニッケ	battery technology lithium ion battery/nickel-metal	充電インフラ 動力分割	filling infrastructure power split
		ル水素電池/鉛電池	hydride battery (nickel hydrogen battery)/lead-acid battery		
		SOC (*)	state of charge (SOC)	絶縁	insulation
1		充電/放電	charge/discharge	標準化	standardization
1		車載充電システム 蓄電システム	onboard charging system power storage system	法規 電気安全(感電防止)	regulation electrical safety (electric shock
		田电ノヘノム	power storage system	电双头土 (心电阴止/	prevention)

(A3)	I	電動補機/空調	electrical accessories/air	EMC (*)	electromagnetic compatibility
(AS)		補機システム	conditioning		
		# (機ンステム プラグインハイブリッド	accessories plug-in hybrid	普及政策 エネルギーバランス	policy of popularization
		燃料電池	fuel cell	エネルギーマネジメント	energy balance energy management
		スタックセル	stack cell	冷却/熱・温度マネージメント	cooling/heat and temperature
		X 7 7 7 E 70	Suck cen		management
		水素タンク	hydrogen tank		
		水素製造/改質	hydrogen production/hydrogen reforming		
		エネルギー充填/水素充填/イ	energy replenishment/hydrogen		
		ンフラ	filling/infrastructure		
		エネルギー制御システム	energy control system brake control/regenerative-friction		
		ブレーキ制御/回生協調ブレーキ	brake control/regenerative-inction		
	④車両運動	電子スタビリティ制御	electronic stability control	運動制御	motion control
	vehicle dynamics	サスペンションシステム	suspension system	車両動力学	vehicle dynamics
		電子制御サスペンション	electronically controlled	評価技術	evaluation technology
		ブレーキシステム ブレーキ・ディロスセ(ADS (*)	brake system brake-by-wire/antilock brake	ドライバモデル	driver model
		ブレーキバイワイヤ/ABS (*)	system (ABS)	トノイバモノル	difver moder
		ステアリングシステム	steering system	操縦安定性	driving stability
(B1)		ステアバイワイヤ/パワーステ	steer-by-wire/power steering	力学モデル	dynamic model
(B1)		アリング タイヤ/ホイール	tire/wheel	道路環境認識	road environment recognition
		シャシ/コンポーネント	chassis/component	運転意図認識	driver intention recognition
		車間距離自動維持運転シス	adaptive cruise control system		
		テム 車線維持支援システム	lane-keeping assistance system		
		単線維持支援システム 横滑り防止装置	electronic stability control		
		二輪車/大型車両/特殊車両/	motorcycle/heavy duty		
L		航空機	vehicle/special vehicle/aircraft		
	⑤車両開発	プラットフォーム	platform	性能計画	performance plan
	vehicle development	CAD/CAM/CAE (*)	computer-aided design (CAD)/computer aided	エクステリア/インテリア	exterior/interior
			manufacturing/computer aided		
			engineering		
		パーソナルモビリティ	personal mobility	カラー	color
		ホワイトボデー	body shell/white body/body in white	車体構造/車体設計	body structure/body design
		バンパ/ボデー外板	bumper/body model	構造部材解析	structural member analysis
(B2)		インストパネル	instrument panel	車両計画	vehicle plan
		シート/照明	seat/lighting	軽量化	weight reduction
		デザイン	design	設計最適化/ロバスト設計	design optimization/robust design
		HILS	hardware in the loop simulation	設計シミュレーション/設計 ツール/設計モデリング	design simulation/design tool/design modeling
				短期試作/仮想進行	rapid prototyping/virtual planning
				車両用途	vehicle application
				モータスポーツ	motor sports
				信頼性	reliability
<b></b>	⑥振動・騒音・乗り心地	パワートレイン/車体/エンジン	power train/body (vehicle	負荷シミュレーション CAE解析/予測/最適化 (*)	load simulation CAE
	◎派動『融音』未り心地	<b>懸架系</b>	body)/engine mounting system	CAE所作/ P 例/取题记(*)	simulation/forecast/optimization
	vibration, noise, and ride	吸排気システム/駆動系	intake and exhaust system/drive	有限要素法/境界要素法	finite element method
	comfort		line (drivetrain)		(FEM)/boundary element method (BEM)
		サスペンションシステム	suspension system (suspension)	評価技術/計測技術/音源探索	evaluation
				技術	technology/measurement technology/sound source search
					technology
		ブレーキ/タイヤ	brake/tire	マルチボディダイナミクス	multi-body dynamics
		車体構造/車体材料	body structure/body material	統計的エネルギー解析法	statistical energy analysis
		防音材 補機・デバイス騒音	acoustic material accessory and device noise	フルビークル解析 実験解析技術	full-vehicle simulation test and analysis technology
		アイドル振動騒音/加速時騒	idling vibration/idling	最適化技術	optimization technique
		音	noise/acceleration noise		
		こもり音/振動	booming noise/vibration	音質評価/乗心地評価	sound quality evaluation/ride comfort evaluation
		静粛性	quietness	デバイス技術/制御技術	device technology/control
(B3)		ドラミング(低周波ロードノイ	drumming noise (low frequency	エード解析/仁達終敗解析/流	technology modal analysis/transfer path
		ズ)	road noise)	モード解析/伝達経路解析/流 体騒音解析	analysis/fluid induced noise
					analysis
		ロードノイズ/パターンノイズ	road noise/pattern noise		
		パワートレイン揺動(始動/発	powertrain oscillation (powertrain		
		進/変速)	start/vehicle start/shift)		
		うなり音(パワートレイン/駆動 系)	whine/growl/beat noise [powertrain/drive line (drivetrain)]		
		ギア音	gear noise		
		乗り心地	ride comfort		

I	I	ハーシュネス	harshness	I	1
		シミー	shimmy		
		走行車体振動	body vibration while driving		
		風切り音	wind noise		
		ブレーキ鳴き/ジャダー	brake noise/judder		
	<b>分</b> 生春	車外騒音/騒音規制	exterior noise/noise regulation	`苦吸理+++ 137 = 144	
	⑦安全 safety	衝突安全/火災安全/予防安全 /統合安全	passive safety (collision safety/crash safety)/fire safety/active safety/combined active and passive safety/integration control/integrated control	道路環境認識	road environment recognition
		安全教育	safety education	画像処理/情報処理	image processing/information processing
		素材可燃性テスト	material flammability test	知能化/コンピュータ応用	intelligent/computer application
		抑制システム	suppression system	乗員検知/乗員の安全	occupant detection/occupant safety
		救命救急/乗員保護/歩行者·2 輪乗員保護/交通弱者保護	first aid/occupant protection/pedestrian and bicycle and motorcycle rider protection/protection for vulnerable road users	被害軽減	damage mitigation
		事故回避/衝突予知	accident avoidance/collision prediction	衝撃吸収・緩和	energy-absorbance and impact attenuation
		衝突試験	crash test	事故解析/事故統計解析	accident analysis/statistical accident analysis
		後方衝突/側方衝突/前方衝突	rear end collision/side	事故調査·分析	accident investigation and analysis
		防火	fire protection	ヒヤリハット解析	near-miss analysis
		プリクラッシュ	pre-crash	救命率/初療開始	survival rate/start of initial
		コンパチビリティ	compatibility	傷害予測	injury prediction
		ドライビングシミュレータ	driving simulator	傷害メカニズム	injury mechanism
		エアバッグ/シートベルト	air bag/seat belt	事故再現/事故復元	accident reconstruction/accident re-creation
		人体モデル/ダミー	anthropomorphic dummy/crash test dummy	安全人体モデル	anthropomorphic dummy
		ドライブレコーダ/EDR	drive recorder/event data recorder	車両転覆	rollover
(C1)		車体構造	body structure	センサ技術	sensor technology
		シート/ヘッドレストレイント	seat/head restraint	高齢者耐性/高齢者運転特性	injury tolerance of older people/characteristics of older drivers
		高齢者保護/こども保護	protection of older people/child protection	受傷部位/加害部位	injured area/impacting area
		CRS (*) 妊婦乗員保護	child restraint system expectant mother protection	重傷度(AIS) 車両運動制御/エアバッグ制	abbreviated injury scale vehicle dynamics control/airbag
		步行者検知/保護	pedestrian detection/protection	御 車線維持制御	control lane-keeping control
		自動ブレーキ	automatic brake	ナビゲーション	navigation system
		被害軽減ブレーキ/警報	damage mitigation brake/warning	車車間·路車間通信	vehicle-to-vehicle and infrastructure-to-vehicle communication
		知能化自動車	intelligent vehicle	運転支援/ドライバ支援	driving support/driver support
		ACC (*) 道路環境	adaptive cruise control road environment	ISS (*)	injury severity score macro data/micro data
		<sup>足町環境</sup> 交差点カメラ	intersection camera	マクロデータ/ミクロデータ リスクカーブ	risk curve
		傷害データベース	injury database	加害性	risk
		臨界安全システム	critical safety system	デルタV	delta-v/change in velocity
		シートベルトリマインダ	seat belt reminder	回避行動	evasive action
		事故通報システム(ACN)	automatic crash notification/automatic collision notification	試験/評価	test/evaluation
		ドクターヘリ/ドクターカー	doctor helicopter/doctor car	第三者評価	third-party evaluation
		免許制度	licensing system	法規	regulation
		傷害基準	injury criteria	CAE (*)	computer aided engineering
		インパクタ	impactor		
<b>L</b> -		ヘルメット	helmet	   <del> </del>	
	<b>⑧人間工学</b>	高齢者 人体傷害	older person [people] human body injury	高齢者対応 実験倫理/技術倫理	older person [people] support experiment ethic/engineering ethic
	human engineering	バイオメカニクス	biomechanics	天験には、「大利には ストレス/主観/パフォーマンス 評価	stress/subjective view/performance evaluation
		生体計測/運転心理	bioinstrumentation/driving	ヒューマンインタフェース	human interface
		ドライバ状態	driver condition	ドライバセンシング/ドライバモ ニタリング	driver sensing /driver monitoring
		認知反応時間	cognitive reaction time	ドライバモデル/ライダーモデ	driver model/rider model
		居眠り/飲酒	drowsiness/alcohol drinking	ドライバ状態モニタリング	driver condition monitoring
		タスク負荷	task load/driver burden	ドライバ特性/ドライバ行動/ド ライバ疲労/ドライバ注意	driver characteristics/driver behavior/driver fatigue/driver attention
		心拍測定	cardiotachometry	運転特性	driving characteristics
	l	リスク補償	risk compensation	ドライビングシミュレータ	driving simulator

		過信/不信	overconfidence/disaffection	視界/視認性/操作性/制御性/ 乗降性/快適性	field of vision/visibility/operability/control lability/ ease of egress and ingress/comfort
		車酔い香り/覚醒	car sickness/aroma/awakening	聴覚/力覚/触覚	sense of hearing/sense of force/sense of touch
		疲労/負担	fatigue/burden	認知/判断	recognition/judgment
		ディストラクション	destruction	操作	operation
(C2)		ワークロード	workload	運転姿勢	driving posture
		リスク認知	risk recognition	個人差	difference among individuals
		ヒューマンエラー	human error	精神負担/身体負担	mental burden/physical burden
		感性/視覚/視認性	sensitivity/vision/visibility	脳•神経系/筋•骨格系	cerebral nerve
		IIMI (*)	human machine interface	生体計測/生体力学	system/musculoskeletal system bioinstrumentation/biomechanics
		HMI (*) 警報システム	warning system	運転支援	driving support/driver support
		情報提供システム	information systems	○	alarm/warning
		意図確定	intent determination	生理計測	physiological measurement
		運転能力	driving ability	自律神経/中枢/内分泌	automatic nervous system/central
		ZE+ARE/J	dirving dointy		nervous system/endocrine
		ドライブレコーダ	drive recorder	視覚系/嗅覚系	visual system/olfactory system
		質問紙/インタビュー	questionnaire form/interview	形態·動態特性/感性·知覚特	morphological and dynamic
				性	characteristics/perceptual and sensory characteristics
		運転行動	driving act/driver behavior	操作量/作業成績	operation amount (steering wheel angle)/operational performance
		ユーザビリティ	usability	行動観察	behavior observation
		温熱環境	thermal environment	精神・肉体疲労	mental and physical fatigue
		ドラポジ	driving position		
		メンタルモデル	mental model		
	<b>○熱 本仕</b>	顔表情	facial expression	CER (#)	
	⑨熱・流体 heat∙fluid	車体/エンジン/吸排気系/部品 要素	body/vehicle body/engine/intake and exhaust system/part element	CFD (*)	computational fluid dynamics
		空力性能/空力騒音	aerodynamic	風洞試験	wind tunnel test
		ニジェーカ/ナノリカーニ	performance/aerodynamic noise radiator/oil cooler	マルゴリブナノエゴリング	algorithm/modaling
		ラジエータ/オイルクーラ 油冷システム/空冷システム		アルゴリズム/モデリング 車室内環境	algorithm/modeling interior environment
(D1)		油/プラステム/空/アンステム	oil cooling system/air cooling system	半主內垛境	interior environment
		エアコンディショナ	air conditioner	エンジン冷却	engine cooling
		冷媒	refrigerant	空調/快適性	air conditioning/comfort
		空気質/臭い	air quality/odor	温度制御/環境制御	temperature control/environmental
		空気質/臭い	air quality/odor		control
	(前環境・エネルギー・資源			熱害	control heat damage
	⑩環境・エネルギー・資源	空気質/臭い リサイクル	air quality/odor recycling	熱害 環境重視型生産	control heat damage environmentally conscious production
	⑩環境・エネルギー・資源 environment・energy・ resources			熱害	control heat damage environmentally conscious production
	environment•energy•	リサイクル	recycling	熱害 環境重視型生産 環境指向型生産設計/リサイク	control heat damage environmentally conscious production environment-oriented production
	environment•energy•	リサイクル	recycling reuse	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計	control heat damage environmentally conscious production environment-oriented production design/recycle design
	environment•energy•	リサイクル リユース レアメタル/レアアース	recycling reuse rare metal/rare earth	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance
	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis
	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*)	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling
	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*)	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*)	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas	熱害 環境重視型生産 環境指向型生産設計/リサイクル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment envisoins/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術 規制/政策/標識 健康影響	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術 規制/政策/標識 健康影響 評価モード	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術 規制/政策/標識 健康影響 評価モード 国際基準調和	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術 規制/政策/標識 健康影響 評価モード 国際基準調和 製造/使用/廃棄段階	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage
(D2)	environment•energy•	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術 規制/政策/標識 健康影響 評価モード 国際基準調和 製造/使用/廃棄段階 エネルギー製造	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing
(D2)	environment•energy• resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC (*)	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術 規制/政策/標識 健康影響 評価モード 国際基準調和 製造/使用/廃棄段階 エネルギー製造 気候変動	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC(*) 鉄鋼材料	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高制川政策/標識 健康影響 評価モード 国際基準調和 製造/使用/廃棄段階 エネルギー製造 気候変動 試験/評価	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation
(D2)	environment•energy• resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC (*)	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/high-strength steel	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高耐用技術 規制/政策/標識 健康影響 評価モード 国際基準調和 製造/使用/廃棄段階 エネルギー製造 気候変動	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC (*) 鉄鋼材料 軟鋼板/高張力鋼板/表面処	recycling reuse rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高制川政策/標識 健康影響 評価モード 国際基準調和 製造/使用/廃棄段階 エネルギー製造 気候変動 試験/評価	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー/リニュー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC (*) 鉄鋼材料 軟鋼板/高張力鋼板/表面処	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/high-strength steel	熟書 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 高制川政策/標識 健康影響 評価モード 国際基準調和 製造/使用/廃棄段階 エネルギー製造 気候変動 試験/評価	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC(*) 鉄鋼材料 軟鋼板/高張力鋼板/表面処 理鋼板	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/high-strength steel sheet/surface treated steel sheet	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフサイクル管理 設計/生産 規制/政策/標識 健康 影響 国際基準用/廃策 健康 証 事 国際基準 国際基準 国際基準 国際基準 国際基準 国際基準 国際基準 国際基準	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC(*) 鉄鋼材料 軟鋼板/高張力鋼板/表面処 理鋼板 ステンレス鋼	recycling reuse  rare metal/rare earth ISO14000 sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/surface treated steel sheet stainless steel	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフリサイクル管理 設計/生産 規制/政策/標識 健康 モード 調際進/使ドー製造 気候変動 試験/評価 モデリング 負荷シミュレーション	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling load simulation
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー アブルエネルギー 燃料/代替燃料 有害大気汚染物質 温暖化ガス VOC(*) 鉄鋼材料 軟鋼板/高張力鋼板/表面処 理鋼板 ステンレス鋼 特殊鋼	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/surface treated steel sheet stainless steel special steel	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフリサイクル管理 設計/生産 規制/政策/標識 健康 モード 調際進/使ドー製造 気候変動 試験/評価 モデリング 負荷シミュレーション	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling load simulation
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー アブルエネルギー 燃料/代替燃料 有害、化ガス VOC(*) 鉄鋼材料 軟鋼板/高張力鋼板/表面処 理鋼板 ステンレス鋼 特殊鋼 鋳鉄	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/surface treated steel sheet stainless steel special steel cast iron	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 国際環境政策/政策分析 材料リサイクル ライフリサイクル管理 設計/生産 制制/政策響 設計/生産 高規制/政策響 一ド調際と一ド調際と一下 国際造/使ギート 製造/使ギート 製造/原子 シミューノスト 会に 質性/ロバスト 会に は に は に に に に に に に に に に に に に に に	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling  load simulation reliability/robust design
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可能エネルギー アブルエネルギー 燃料/代替燃料 有害暖化ガス VOC(*) 鉄鋼材料 軟鋼板/表面処 理鋼板 ステンレス鋼 特殊鋼 鋳鉄 焼結材料/粉末合金	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/surface treated steel sheet stainless steel special steel cast iron sintering material/powder alloy	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基準 環境政策/政策分析 材料/リサイクル ライフル管理 設高制制の影響 一に基準用/廃製造 インション は、一に変換性/ロバス を関係している では、のでは、のでは、のでは、のでは、のでは、のでは、のでは、のでは、のでは、の	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling  load simulation reliability/robust design rust prevention
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー/リニュー 燃料/代替燃料 有害状気ガス VOC (*) 鉄鋼材料 軟鋼板 ステンレス 特殊鋼 鋳鉄 焼結材料/粉末合金 非鉄材料 アルミニウム合金/アタン合金	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/high-strength steel sheet/surface treated steel sheet stainless steel special steel cast iron sintering material/powder alloy non-ferrous material	熱害 環境重視型生産 環境指向型生産設計/リサイク メンテナンス 基準 環境 政策/政策分析 材料/リサイクル ライフル管理 設高制/の影響 一、調際造/使・ギ動 ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling  load simulation reliability/robust design  rust prevention weight reduction/mass reduction strength/stiffness/rigidity/wear resistance
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可エネルギー アブルエネルギー 燃料/代替燃料 有害暖化ガス VOC(*) 鉄鋼材料 軟鋼板/表面処 理鋼板 ステンレス鋼 特殊領 鋳鉄 焼結材料/粉末合金 非鉄材料 アルミニウム合金/マグネシウム合金/チタン 複合材料	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power  life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound  iron and steel materials low carbon steel sheet/mild steel sheet/high-strength steel sheet/surface treated steel sheet stainless steel special steel cast iron sintering material/powder alloy non-ferrous material aluminum alloy/magnesium	熱害 環境重視型生産設計/リサイクルシンス 基準 国際環境政策/政策分析 材料リサイクル管理 設高耐制/政策 制制/政策 制制/政策響 部と連邦/原製 部と連邦/原製 部と連邦/原製 部と連邦/原製 部と連邦/原製 部とが の で の で の は は に の に の に の に の に の に の に の に の に	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling  load simulation reliability/robust design rust prevention weight reduction/mass reduction strength/stiffness/rigidity/wear resistance fatigue
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA (*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー/リニュー 燃料/代替燃料 有害状気ガス VOC (*) 鉄鋼材料 軟鋼板 ステンレス 特殊鋼 鋳鉄 焼結材料/粉末合金 非鉄材料 アルミニウム合金/アタン合金	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power  life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound  iron and steel materials low carbon steel sheet/mild steel sheet/high-strength steel sheet/surface treated steel sheet stainless steel special steel cast iron sintering material/powder alloy non-ferrous material aluminum alloy/magnesium alloy/titanium alloy	熱害 環境重視型生産 環境指向型生産設計/リサイク ル設計 メンテナンス 基 国 料料フリイクル ライフルラインル管理 設高制度を 部 一 に は で に で に で で で で で で で で で で で で で で	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling  load simulation reliability/robust design rust prevention weight reduction/mass reduction strength/stiffness/rigidity/wear resistance fatigue anticorrosion/stray current
(D2)	environment·energy· resources	リサイクル リユース レアメタル/レアアース ISO14000 太陽光/風力 LCA(*) 大気環境/水質環境/土壌環境 排出ガス 燃費/熱効率 新エネルギー 再生可エネルギー アブルエネルギー 燃料/代替燃料 有害暖化ガス VOC(*) 鉄鋼材料 軟鋼板/表面処 理鋼板 ステンレス鋼 特殊領 鋳鉄 焼結材料/粉末合金 非鉄材料 アルミニウム合金/マグネシウム合金/チタン 複合材料	recycling reuse  rare metal/rare earth ISO14000  sunlight/wind power life cycle assessment air quality/water quality/soil environment emissions/emission gas fuel economy/thermal efficiency new energy recyclable energy/renewable energy fuel/alternative fuel hazardous air pollutant heat-trapping gas/greenhouse gas volatile organic compound iron and steel materials low carbon steel sheet/mild steel sheet/high-strength steel sheet/surface treated steel sheet stainless steel special steel cast iron sintering material/powder alloy non-ferrous material aluminum alloy/magnesium alloy/titanium alloy composite material	熱害 環境重視型生産設計/リサイクルシンス 基準 国際環境政策/政策分析 材料リサイクル管理 設高耐制/政策 制制/政策 制制/政策響 部と連邦/原製 部と連邦/原製 部と連邦/原製 部と連邦/原製 部と連邦/原製 部とが の で の で の は は に の に の に の に の に の に の に の に の に	control heat damage environmentally conscious production environment-oriented production design/recycle design maintenance standard international environmental policy/policy analysis material recycling life cycle management design/production long service life technology regulation/policy/marking health effects evaluation mode global standard harmony manufacturing/use/disposal stage energy manufacturing climate change test/evaluation modeling  load simulation reliability/robust design rust prevention weight reduction/mass reduction strength/stiffness/rigidity/wear resistance fatigue

	1	ポリマー複合材	polymer composite material	熱処理/焼き入れ	heat treatment/quenching
		バグマー接口列 SMC (*)	surface mount chip or sheet	表面処理/めっき	surface treatment/plating
			molding compound	<b>火田だ</b> 生がっと	outhor transmissing
		プラスチックリサイクリング	plastic recycling	鋳造/鍛造	casting/forging
		インストパネル	instrument panel	接合/結合/溶接	joining/coupling/welding
(D3)		バンパ/車体/外装	bumper/body/vehicle body/exterior	プレス技術	press technology/stamping technology
		内装/シート	interior/seat	プロセス	process
		接着剤	adhesive	精錬	smelting
		塗料	paint	加工性/リサイクル性	workability/recyclability
		エンジンコンポーネント	engine component	衝撃性/透明性	impact resistance/transparence
		シール/ガスケット	seal/gasket	耐熱/耐油/耐燃料/耐水/耐光	heat resistance/oil resistance/ fuel
					resistance/water resistance/light resistance/light fastness
		窓ガラス	window glass	平滑性	smoothness
		構造用セラミクス/エレクトロセ	structural	十月日   絶縁性能	insulation performance
		ラミクス	ceramics/electroceramics	小しが外工中で	institution performance
		二次電池材料/モータ用材料	secondary battery material (rechargeable battery material)/material for motor	ナノテクノロジー	nanotechnology
		電磁鋼板	magnetic steel sheet	破壊/酸化/劣化/耐熱性	fracture/oxidation/deterioration/de
		電解質	electrolyte	磁気特性	gradation/heat resistance magnetic characteristics
		永久磁石	permanent magnet	フリクション	friction
		触媒	catalyst	297232	niction
		グリース	grease		
<b></b>	①生産·製造	素形材	formed and fabricated materials	企画/意匠/サイマル	planning/design/simulation
	production manufacture	成形加工	forming process	材料/コスト	material/cost
	1	付加加工	additional machining	プレス/樹脂(プラスチック)	press/resin (plastics)
		チームワーク設計	teamwork design	機械加工/高エネルギー密度	machining/high energy density
				加工	machining
		量産試作	quantity production prototyping	接合/溶接/肉盛り	joining/welding/weld overlay
		鋳造/鍛造/組立/塗装/艤装	casting/forging/assembly/painting/ rig/trim	CAT/評価/品質 (*)	computer-aided testing /evaluation/quality
		生産計画/製造計画/生産管理	production plan/manufacturing	検査/測定	inspection/measurement
		/製造管理	plan/production management/manufacturing control		
		┃ 品質管理/供給系管理/日程管	quality control/supply	設計/試作	design/prototyping
(D4)		理	control/schedule control/schedule management	0X01/0X1F	design prototyping
		金型	die/mold	モジュール	module
		並至 熱処理/表面処理	heat treatment/surface treatment	トータルコスト	total cost
		設備/保守/メンテナンス	equipment/maintenance/maintenan	1. 2/2/1	total Cost
		以順が入りがクラブンス	ce		
		調達/購買	procurement/purchase		
		一貫生産	continuous production		
		PLM/BOM/PDM/MES (*)	product lifecycle management/bill of materials/product data		
			management/manufacturing		
			execution system		
	③エレクトロニクス及び制御	エンジン制御/トランスミッショ	engine control/transmission	試験/計測/診断	test/measurement/diagnosis
	electronics and control	ン制御/シャシー制御 衝突安全制御/予防安全制御/ 知能化安全制御	control/chassis control passive safety control/active safety control/intelligent safety control	信頼性/シミュレーション	reliability/simulation
		統合制御/車体系制御/バイワ	integration control/vehicle body	制御システム/ソフト	control system/software
		イヤ制御/EV·HEV制御 (*)	control/by-wire control/electric vehicle and hybrid electric vehicle control		control system sortware
		 電子デバイス/パワーデバイス	electronic device/power device	データ転送・蓄積	data transfer and storage
		車載マイコン/車載LSI(*)	microprocessor/large scale	ハードウエア・ソフトウェア標	hardware and software
			integrated circuit	準化	standardization
		ECU/PCU (*)	electronic control unit/	テスト情報管理	information management
		ミリ波レーダ/レーザレーダ/U	millimeter wave radar/laser radar/ultra wide band		
		WB (*) 半導体カメラ/赤外カメラ	semiconductor camera/infrared	電子物性	electronic properties
			camera		
		表示デバイス/操作デバイス/ 警報・情報提供デバイス 車庫入れ支援システム	device/operation device/warning and information device parking assist system	電気回路/電子回路	electric circuit/electronic circuit vehicle sensor/actuator
		単単人化又接システム LEDライト(*)	light emitting diode light	車両センサ/アクチュエータ 画像処理	image processing
		1 /	physical sensor/chemical sensor		on-road test/duration
		フィジカルセンサ/ケミカルセン	ar,		
		フィジカルセンサ/ケミカルセン サ		部品レベルテスト	test/durability test/parts level test
			micro electro mechanical systems	部品レベルテスト 新計測法	new measuring technique
		サ MEMS (*) ドライバ状態検知制御システ	driver state detection control		
		サ MEMS (*) ドライバ状態検知制御システ ム/セキュリティ制御システム	driver state detection control system/security control system	新計測法 知能化	new measuring technique intelligent
		サ MEMS (*) ドライバ状態検知制御システ	driver state detection control	新計測法 知能化	new measuring technique
(E1)		サ MEMS (*) ドライバ状態検知制御システ ム/セキュリティ制御システム	driver state detection control system/security control system control simulation/hardware in the	新計測法 知能化	new measuring technique intelligent

		HMI表示/HMI操作/HMI情報 提供システム (*)	human machine interface display/human machine interface operation/human machine interface information provision	電気機器	electrical equipment
		制御ナビゲーション	system control navigation	パッケージ/アセンブリ/実装技	package/assembly/packaging technology
		画像認識システム/音声認識システム	image recognition system/speech recognition system	1和	lectinology
		電動アクチュエータ EMC (EMI/EMS) (*)	electrical actuator electromagnetic compatibility (electromagnetic interference/electromagnetic		
		車載多重通信システム	susceptibility) on-board multiplex		
		灯火系 EDR (*)	communication system light event data recorder		
		OBD (*)	on-board diagnostics		
		ワイヤーハーネス/電力系ワイ ヤハーネス	wiring hamess/wire harness/electrical system wire		
		ソフトウエアプラットホーム	harness software platform		
		ロボティックス 知的制御システム/自律走行 システム	robotics control system/autonomous land system/autonomous driving system		
<b></b> -	①情報・通信及び制御	電力システム CAN (*)	electrical system controller area network	車車間通信	inter-vehicle
	information, communication, and control	CAN(*)	controller area network	字字问题店 	communication/vehicle-to-vehicle communication
		Autozar	AUTOSAR	情報システム	information system
		ブルートゥース	Bluetooth vehicle to grid	オーディオ ナビゲーション	audio navigation system
		V2G (*) PLC (*)	power line communication	環境認識	environment recognition
		無線LAN	wireless local area network	通信システム	communication system
		ドライブレコーダ	drive recorder	室内ネットワーク/車両ネット ワーク	interior network/vehicle network
		車両ナビゲーション/コミュニ ケーションシステム	vehicle navigation system/communication system	IT/ITS (*)	information technology/intelligent transport system
		FlexRay	FlexRay	メディア情報	media information
(E2)		車載高速通信	high-speed communication	エコドライブ	eco-drive/environmentally friendly driving
		UWB通信 インタネット通信	ultra wide band communication  Internet communication	音声認識 光通信	speech recognition optical communication
		スマートグリッド	smart grid	WEBコンテンツ	web contents
		クラウドシステム	cloud system	分散処理システム	distributed processing system
		リモートダイアグ	remote diagnostics	マルチコアCPU	multi-core CPU
		LIN (*) インタナビ交通情報	local interconnect network traffic information	オペレーションシステム	operating system
		1 フタナロ 交通 情報 HDラジオ (*)	HD Radio		
		PND (*)	portable navigation device/personal navigation device		
		ネットワークトレーサビリティ	network traceability		
		WiMax	Worldwide Interoperability for Microwave Access		
		電子すかし技術 セキュア通信プロトコル	digital watermark technology secure communication protocol		
	⑮社会システム	省工ネ運転	energy-saving driving	交通環境	traffic environment
	social system	電気社会システム	electricity-based society systems	交通工学	traffic engineering
(F1)				交通流	traffic stream
				安全教育 道路	safety education road
	16共通基盤	オンボード計測	onboard measurement	模型実験	experiment with a model
	common infrastructure	耐久テスト	durability test	シミュレーション/モデリング	simulation/modeling
		テスト情報管理 部品レベルテスト	information management parts level test	設計 保守/整備/保全	design maintenance/maintenance/protecti
					on
		CAD/CAM/CAE (*)	computer-aided design/computer aided manufacturing/computer aided engineering	サービス	service
				短期試作	rapid prototyping
				仮想進行 ###	virtual planning
(F2)				修理	repair
(1/2)				診断装置 保証	diagnostic device warranty
				モニタリング	monitoring
		1		データ転送・蓄積	data transfer and storage
		1		規格/規制	standard/regulation

					品質保証 政策提案 知財 技術者教育/育成	regulation/certification quality assurance policy proposal intellectual property engineering education/training history of automotive technology
Γ		⑪その他のモビリティ	航空機	airplane		
		other means of mobility	アビオニクス	avionics		
	(E3)		海洋/船舶	marine/shipping		
1	(F3)		航空宇宙	aerospace		
1			鉄道	rail		
			パーソナルモビリティ	personal mobility		

# **Definition for Abbreviations**

#	ABRR	English	Japanese
1	ABS	Antilock Brake System	アンチロックブレーキシステム
2	ACC	Adaptive Cruise Control	車間距離制御システム
3	AMT	Automated Manual Transmission	自動化マニュアルトランスミッション
4	AWD	All Wheel Drive	全輪駆動(4輪駆動)
5	BDF	Bio Diesel Fuel	バイオディーゼルフューエル
6	BOM	Bills of Materials	部品表
7	CAD	Computer Aided Design	コンピュータ支援設計
8	CAE	Computer Aided Engineering	コンピュータ支援技術
9	CAM	Computer Aided Manufacturing	コンピュータ支援加工
10	CAN	Controller Area Network	コントローラエリアネットワーク
-11	CAT	Computer Aided Testing	コンピュータ支援検査
12	CFD	Computational Fluid Dynamics	数值流体力学
13	CRS	Child Restraint System	幼児拘束装置
14	CVT	Continuously Variable Transmission	無段変速機
15	DCT	Dual Clutch Transmission	デュアルクラッチトランスミッション
16	DME	Dimethyl Ether	ジメチルエーテル
17	ECU	Electronic Control Unit	エンジン制御コンピュータ
18	EDR	Event Data Recorder	イベントレコーダ
19	EMC	Electromagnetic Compatibility	電磁妨害感受性
20	EMI	Electromagnetic Interference	電波障害
21	EMS	Electromagnetic Susceptibility	電磁的免疫性
22	EV	Electric Vehicle	電気自動車
23	FT	Fischer Tropsch	フィッシャートロブシュ
24	HD	High Definition	ハイデフィニション
25	HEV	Hybrid Electric Vehicle	ハイブリッドカー
26	HILS	Hardware In the Loop Simulation	HILシミュレーション
27	HMI	Human Machine Interface	ヒューマンマシンインタフェース
28	ISS	Injury Severity Score	傷害度スコア
29	IT	Information Technology	情報技術
30	ITS	Intelligent Transport System	高度道路交通システム
31	LCA	Life Cycle Assessment	ライフサイクルアセスメント
32	LED	Light Emitting Diode	発光ダイオード
33	LIN	Local Interconnect Network	ローカルインタコネクトネットワーク
34	LSI	Large Scale Integration Circuit	大規模集積回路
$\vdash$	MEMS	Micro Electro Mechanical Systems	メムス
36	MES	Manufacturing Execution System	製造実行システム
37	OBD	On Board Diagnosis	車載診断
38	PCU	Power Control Unit	パワーコントロールユニット
39	PDM	Product Data Management	製品情報管理
40	PLC	Power Line Communications	電力線搬送通信
41	PLM	Product Lifecycle Management	製品ライフサイクル管理
42	PND	Portable Navigation Device	可搬型ナビゲーション装置
43	SCR	Selective Catalytic Reduction	選択触媒還元
44	SMC	Sheet Molding Compound	シートモールディングコンパウンド
45	SOC	State Of Charge	充電レベル
46	UWB	Ultra Wide Band	超広帯域無線
47	V2G	Vehicle to Grid	ビークルトゥグリッド
48	voc	Volatile Organic Compounds	揮発性有機化合物

# 4. JSAE Copyright Rules

#### Article 1 (Purpose)

- 1. The purpose of these Rules is to cover the necessary items related to the copyright arrangements of work that appears in publications issued by the Society of Automotive Engineers of Japan, Inc. (hereinafter referred to as JSAE).
- 2. The publications referred in the preceding clause shall include the website of the JSAE and electronic media issued by the JSAE.

#### Article 2 (Scope)

These Rules shall apply to publications issued by the JSAE, publications co-issued with another organization or administrative organ, and publications prepared as the product of a project consigned by another organization or administrative organ, unless otherwise agreed with the other organization or administrative organ.

#### **Article 3 (Terms and Definitions)**

For these Rules, the following terms and definitions shall apply.

(1) Work

A work stipulated in Article 2, Clause 2, Item 2 of the Japanese Copyright Act (hereinafter referred to as "the Act"), and falling under one of the following items.

- a) A research report, thesis, article, or the like that appears in a publication issued by the JSAE
- b) A research report, thesis, article, or the like that appears on the website of the JSAE
- c) Other works of a similar nature designated by the JSAE
- (2) Author

The person or persons who create a work as stipulated in Article 2, Clause 1, Item 2 of the Act.

(3) Property Rights

The property rights of a work, including all the rights stipulated in Article 21 (Right of reproduction), Article 21 (Right of performance), Article 22-2 (Right of screen presentation), Article 23 (Rights of public transmission, etc.), Article 26-2 (Right of ownership transfer), Article 26-3 (Right of rental), Article 27 (Rights of translation, adaptation, etc.) and Article 28 (Right of the original author in the exploitation of a derivative work) of the Act.

(4) Moral Rights of Author

The moral rights of the author, including all the rights stipulated in Article 18 (Right to make the work public), Article 19 (Right to determine the indication of the author's name) and Article 20 (Right to maintain integrity) of the Act.

(5) Copyright

The property rights as stipulated in (3) above and the moral rights of the Author as stipulated in (4) above.

#### **Article 4 (Ownership of Copyright)**

- 1. The property rights shall be owned by the author.
- 2. The copyright of secondary work and work created or edited by the JSAE shall be owned by the JSAE.

#### **Article 5 (Authorization to Exploit Work)**

- 1. The author authorizes the JSAE to exploit the property rights exclusively both inside and outside Japan free of charge.
- 2. The rights of the JSAE pursuant to the preceding clause shall include sublicensing rights, whether on a chargeable or non-chargeable basis.
- 3. The JSAE shall notify the author in advance when the JSAE creates a secondary work from an original work.

#### **Article 6 (Use of Work by Author)**

- 1. The author shall make a written application to the JSAE for permission to use work created by the author (including the granting of permission to a third party to use the work).
- 2. The JSAE shall approve the application from the author pursuant to the preceding clause, provided that the use of the work is not contrary to the purposes and objectives of the JSAE.
- 3. Notwithstanding the provision pursuant to the above clause 1, the author may use the author's original work without the permission of the JSAE, provided that the use of the work falls under one of the following items.
  - (1) The use of the author's original work on a website belonging to the author or an organization to which the author belongs
  - (2) The use of figures, pictures, graphs, tables, and the like that appear in the work
  - (3) The use of copyright as granted in Articles 30 to 50 (Limitations on Copyright) of the Act

#### **Article 7 (Permission of Use of Copyright by a Third Party)**

- 1. A third party who intends to use the property rights of the work (hereinafter referred to as "the user") shall obtain permission from the JSAE.
- 2. The JSAE shall notify the author when a user creates a secondary work using an original work.
- 3. If the use of a work is permitted, the user shall pay the JSAE a use fee in accordance with an operational standard to be

determined separately.

#### Article 8 (Notification to Author)

- 1. Notification to the author pursuant to the preceding article and Article 5 shall be deemed to be completed at the time when the notification should ordinarily reach the author if it is sent to the registered or recorded address of the author or to the JSAE member enrollment address of an author who is a member of the JSAE.
- 2. In the event of a co-created work, the notification shall be sent to the representative agreed by all the authors pursuant to Article 10, Clause 1, Item 3.
- 3. If the author has notified the JSAE in advance the author's agreement to certain types of secondary work (including electronic correspondence), such notification may replace the notification pursuant to this article.
- 4. In the case of work for which the author is unknown or co-created work for which the representative is unknown, notification shall be deemed to be completed at the time when a report is made to the JSAE Director in charge of publication.

#### **Article 9 (Waiver to Exercise Moral Rights of Author)**

- 1. The author shall waive the moral rights of the author to the JSAE or the user.
- 2. The preceding clause shall also apply to secondary work created by the JSAE or a user using the original work.

#### **Article 10 (Guarantee of Author)**

The author shall guarantee that the work fulfills all the following items.

- (1) The work shall not infringe any rights, including but not limited to the intellectual property rights of a third party such as copyright, patent rights, utility model rights, design rights, trademark rights, and domain names, and rights regarding the application or registration of the aforementioned intellectual property rights.
- (2) The work shall not have been previously published.
- (3) The author shall obtain the agreement of all the co-authors before submitting a co-created work to the JSAE.
- (4) The author shall indicate the source when quoting the work of a third party.

#### **Article 11 (Prohibition of Disposal of Work by Author)**

The author shall not dispose of work, including but not limited to cession or transfer of property rights, and the attachment of security interests without the advance written approval of the JSAE.

#### **Article 12 (Cooperation for Resolution of Disputes)**

The author and the JSAE shall cooperatively resolve disputes or possible disputes arising from a work, such as the infringement of rights of the work by a third party, or the infringement of rights of a third party by the work.

#### **Article 13 (Consultation)**

If any doubt arises concerning matters not provided in these Rules or in the interpretation of each provision in these Rules, the issue shall be resolved through discussions between the author and the JSAE in accordance with the principles of good faith.

#### **Article 14 (Work Created before Enforcement of these Rules)**

Each provision of these Rules is applicable to work created before enforcement of these Rules.

#### **Article 15 (Operational Standard)**

The Publication Council of the JSAE shall determine the operational standard for details necessary to the application of these Rules.

#### Article 16 (Revision)

Revision of these Rules shall be subject to deliberation by the Publication Council and decision by the Board of Directors of the JSAE.

Rules and Guidelines for Speakers
-JSAE Symposium-

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