bootstrapping/agents	$Agents \ and \ tasks$	
\agSp	Agents	
\agSpYU	$Agents(\mathcal{Y};\mathcal{U})$	All agents with given formats.
\agA	\mathcal{A}	An agent
\agExp	expl	Agent's exploration phase
\agLearn	learn	Agent's learning phase
\agAct	act	Agent's action phase
\agAexp	$expl_{\mathcal{A}}$	Exploration phase for agent A .
\agAact	$\operatorname{act}_\mathcal{A}$	Action phase for agent \mathcal{A} .
\agAwtor	$WtoR_\mathcal{A}$	Map from the world to the result for t
\agAwtob	$WtoB_\mathcal{A}$	1
\agAintermediate	$intermediate_{\mathcal{A}}$	
\agSucAG	$success_\mathcal{A}^\mathcal{G}$	Success set for the agent \mathcal{A} and goal \mathcal{G}
\agRep	m	Agent representation
\agRepSp	\mathfrak{M}	Agent's model space
\agNuis		rigent s model space
\agNuisComp	$egin{array}{c} \mathrm{G}_{\mathcal{A}} \ \mathrm{G}_{\mathcal{A}}^{orall} \ \mathrm{G}_{\mathcal{A}}^{orall} \ \mathrm{G}_{\mathcal{A}}^{\mathcal{A}} \ \mathrm{C}_{\mathcal{A}} \ \mathcal{G}_{\mathcal{G}}^{\mathcal{G}} \ \mathcal{G}_{\mathcal{G}}^{\mathcal{G}} \end{array}$	Complement of $G_{\mathcal{A}}$.
\agNuisObs	$G_{\mathcal{A}}$	Complement of $G_{\mathcal{A}}$.
\agNuisCmd	GΆ CÜ	
, 0	$G_{\mathcal{A}}$	
\agbbClass	$C_{\mathcal{A}}$	
\agbbClCore \agGoal	$\mathcal{C}_{\mathcal{A}}$	The agent's goal (a subset of StocProc
(180	5	(
articles		
articles/bds	$BDS\ report$	
ar orcico, bab		
RDCnlz	-	
\BDSnk	BDS(n;k)	
BDSSk	$BDS(n;k) \ CBDS(\mathcal{S};k)$	Family of BDS concers
\BDSSk \bgBDSfamily	$BDS(n;k) \ CBDS(\mathcal{S};k) \ BDS$	Family of BDS sensors
\BDSSk \bgBDSfamily \bgCBDSfamily	$\begin{array}{c} BDS(n;k) \\ CBDS(\mathcal{S};k) \\ BDS \\ CBDS \end{array}$	Family of BDS sensors
\BDSSk \bgBDSfamily \bgCBDSfamily \bds	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS	
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS	Family of BDS sensors Bilinear dynamics system
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS BDS BDS BDS	Family of BDS sensors Bilinear dynamics system
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \cbds \CBDS	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS BDS BDS BDS	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \omsumb{,}	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS BDS $CBDS$ $CBDS$	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments)
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \cbds \CBDS	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS BDS BDS BDS	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \omsumb{,}	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS BDS $CBDS$ $CBDS$	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments)
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS $CBDS$ $CBDS$ $CBDS$ $CBDS$ $CBDS$ $CBDS$	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \omsumb{,} \TT \TTe	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS $CBDS$ $CBDS$ $CBDS$ $CBDS$ $CBDS$	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \omsumb{,} \TT \TTe \TP	BDS(n; k) CBDS(S; k) BDS CBDS BDS BDS CBDS CBDS CBDS CBDS	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \TT \TTe \TPe	$BDS(n;k)$ $CBDS(\mathcal{S};k)$ BDS $CBDS$ BDS BDS BDS $CBDS$ $CBDS$ $CBDS$ $CBDS$	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor ?
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \omsumb{,} \TT \TTe \TPe \TPe	BDS(n; k) CBDS(S; k) BDS CBDS BDS BDS CBDS CBDS CBDS CBDS CB	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor ? Learned tensor Learned tensor
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \TT \TTe \TTe \TP \TPe \TU \TUe \TM	BDS(n; k) CBDS(S; k) BDS CBDS BDS BDS CBDS CBDS CBDS CBDS CB	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor ? Learned tensor Learned tensor Bilinear tensor in BDS dynamics
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \Cbds \CBDS \TT \TTe \TTe \TPe \TPe \TU \TUe \TM	BDS(n; k) CBDS(S; k) BDS CBDS BDS BDS CBDS CBDS CBDS CBDS CB	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor ? Learned tensor Learned tensor Bilinear tensor in BDS dynamics Bilinear tensor in BDS dynamics
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \msumb{,} \TT \TTe \TTP \TPe \TU \TUe \TM \TMe \TM	BDS(n; k) CBDS(S; k) BDS CBDS BDS BDS CBDS CBDS CBDS CBDS U U M M M N	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor ? Learned tensor Learned tensor Bilinear tensor in BDS dynamics Bilinear tensor in BDS dynamics Bilinear tensor in BDS dynamics
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \Cbds \CBDS \omsum\{\} \omsumb\{,\} \TT \TTe \TTP \TPe \TU \TUe \TM \TMe \TN \TNe	BDS(n; k) CBDS(S; k) BDS CBDS BDS BDS CBDS CBDS CBDS CBDS T T T P P U U U M M M N N	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor ? Learned tensor Bilinear tensor in BDS dynamics
\BDSSk \bgBDSfamily \bgCBDSfamily \bds \BDS \cbds \CBDS \cbds \CBDS \omsumb{,} \TT \TTe \TTP \TTPe \TU \TUe \TM \TMe \TM	BDS(n; k) CBDS(S; k) BDS CBDS BDS BDS CBDS CBDS CBDS CBDS U U M M M N	Family of BDS sensors Bilinear dynamics system Continuous-space bilinear dynamics sy omitted sum omitted sum (two arguments) Learned tensor ? Learned tensor Learned tensor Bilinear tensor in BDS dynamics Bilinear tensor in BDS dynamics Bilinear tensor in BDS dynamics

\Tucov	Q	Covariance of \boldsymbol{y} .
Tucove	Q	Covariance of \boldsymbol{y} .
discInt	$\overset{\cdot}{T}$	Discretization interval
\nearavg	$rac{\overline{\mu}}{\mu}$	Average nearness
/Hear av 8	μ	Tiverage nearness
articles/bgds	$BGDS\ report$	
\bgds	BGDS	Bilinear gradient dynamics system
BGDS	$_{ m BGDS}$	
bgCmd	$oldsymbol{u}$	commands
\bgCmdH	$\boldsymbol{u}^{\mathbb{T}}$	commands history
\bgCmdSp	ũ	commands space
\bgWorld	W	World
\bgWorldSp	\mathcal{W}	World space
/p8morraph	Y Y	$W \in \mathcal{D}(\mathbb{T}, \mathcal{U}, \mathcal{Y})$
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
		\$\bgWorld \in \bgRSSp(\bgTime, \bgCm
		\bg0bsSp)\$
bgAgent	agent	Agent
\bgAgentEx	learn	Agent exploration
\bgAgentAc	act	Agent action
\bgAgentRep	$m{r}$	Agent representation
\bgAgentRepSp	${\mathcal R}$	Agent representation space
\bgAgentSp	Agents	Agent action
\bgCmdTr	g	Transformation of the commands
\bgCmdTrSp	$^{f g}$	Hambioi in our day
\bgObsTr	$oldsymbol{h}$	Transformation of the observations
	$^{m{n}}_{\mathrm{G}^{\mathcal{Y}}}$	Transformation of the observations
\bg0bsTrSp		
\bgSamplingGroup	Sampling	Groups of sampling operations
\bgCalibration	Calib	Calibration operation
\bgBDSagent	A_{BDS}	The BDS agent
\bgBGDSagent	A_{BGDS}	The BGDS agent
\bgPopCode	рор	Popoulation code
\bgRankCode	rankcode	Rank code
\bgRangeFamily	RF	Family of range-finders models
\bgFields	C	
\bgCmdConstraints	$\Omega_{m{u}}$	
\bgPopK	ψ	
pgrohv	ψ	
articles/bgds/old	$BGDS\ report$	
\state	\boldsymbol{x}	Generic underlying state.
\stateSp	${\mathfrak X}$	Generic underlying state space.
\detecte	d	Detector
		Quantity with mean normalized.
dist	σ	Distance to obstacle
\distn	σ^*	Distance to obstacle, mean normalized
,	O	Nonlinear function in range-finder tens
\rfnl	β	
\near	μ	Nearness
\lum	y	Luminance
lumn	y^*	Luminance, mean normalized
\sptran	ℓ	Sensor pose (translation)
\sprot	$\ell_{m{ heta}}$	Sensor pose (rotation)
\slvel	v^s	Sensor linear velocity (when off axis)
		,

\savel	ω^s	Sensor angular velocity (when off axis)
\TX	X	Generic metric
TXe	X	Generic metric
\OS	S	$S = s \times \nabla$
\convf	f_*	Indicates the convolution with a kernel
		Metric on the tangent space of $y(s)$.
\my	m	whether on the tangent space of $y(s)$.
	DCDC	
\bgBGDSfamily	BGDS	Family of BGDS sensors
BGDSsk	$BGDS(\mathcal{S};k)$	
\focal	F	Pinhole camera focal length.
\traindist	$p_{ m T}$	Training distribution.
\trainsym	$Sym(p_{\mathrm{T}})$	Symmetry group of $p_{\rm T}$.
articles/bgds/logical	Gradient dynamics	
\obslsp	\mathcal{Z}	Observation logical space
\obsl	z	Observations in logical space
\obsle	z	Observation logical space element
xtos	arphi	Mapping between S and Z .
\jac	Ĵ	Jacobian of φ
\jace	J	An element of the Jacobian of φ .
\mz	μ	Metric on the tangent space of $z(x)$.
\mmu	$\stackrel{r}{M}$	Metric for the commands u .
inne.	171	media for the communation.
articles/bgds/logical/grads	Gradient dynamics	
\Tzgd		z gradient dynamics
\Tzgde	Ĺ	z gradient dynamics (element)
\Tzgl	M	z gradient learned tensor
, =	M	z gradient learned tensor (element)
\Tzgle		- ,
Tzgcov	S	z gradient covariance
Tzgcove	S	z gradient covariance (element)
\Tzad	E	Affine part of dynamics.
Tzade	E	Affine part of dynamics (element)
Tzal	F	Learned affine part of dynamics.
\Tzale	F	Learned affine part of dynamics (eleme
	D.C.D.C.	
articles/bgds/tensors	BGDS report	1 1
Tygd	G	\boldsymbol{y} gradient dynamics
Tygde	G	y gradient dynamics (element)
Tygl	H	$m{y}$ gradient learned tensor
Tygle	Н	$m{y}$ gradient learned tensor (element)
Tygcov	R	$oldsymbol{y}$ gradient covariance
\Tygcove	R	\boldsymbol{y} gradient covariance (element)
\Tyad	В	Affine part of dynamics.
\Tyade	В	Affine part of dynamics (element)
Tyal	С	Learned affine part of dynamics.
Tyale	С	Learned affine part of dynamics (eleme
articles/bgds/models/deprecated	Definition of rando	m models
\bgTime	\mathbb{T}	Time axis
bgRS	D	Random model
\bgRSSp	$\mathfrak D$	All models
. — .		

\bgRSinput	a	Input signal
\bgRSinputSp	$\mathcal{A}_{\overline{}}$	
\bgRSinputH	$\boldsymbol{a}^{\mathbb{T}}$	History of input signal
\bgRSoutput	$oldsymbol{b}_{_}$	
\bgRSoutputH	$\boldsymbol{b}^{\mathbb{T}}$	History of output signal
\bgRSoutputSp	В	
\bgRSinputTr	$oldsymbol{g}$	
\bgRSinputTrSp	$\mathrm{G}^{\mathcal{A}}$	
\bgRSoutputTr	h	
\bgRSoutputTrSp	$\mathrm{G}^{\mathcal{B}}$	
\bg0bs	$oldsymbol{y}$	observations
\bgObsH	$\overset{oldsymbol{g}}{oldsymbol{y}^{\mathbb{T}}}$	observations history
\bg0bsSp	ÿ	observation space
articles/camera	Camera paper	
rank	order	
place	place	
\ff	f	Distance to similarity function
Sany	$\stackrel{\circ}{\mathcal{M}}$	Generic hypersphere
\targetSp	\mathfrak{M}	Target manifold
Ssubset	M	A subset of M XXX
\infr	infr	Informative radius
\ffr	infr(f)	Informative radius of f
distradius	rad	Radius of a distribution
distdiam	diam	Diameter of a distribution
hausdorff	hausdorff	Hausdorff distance
kimberley	kim	Kimberley value
\errproc	$e_{ m pr}$	Procrustes score
\isoError	e_{iso}	
\symError	e_{sym}	
\relError	e_{r}	
\scaledRelError	$e_{\sf sr}$	
angcorr	$ ho_{ heta}$	
\spearperf	$ ho_{ m sp}$	Spearman performance measure
\spearperfn	$ ho_{ m sp}^*$	Normalized Spearman performance me
dirset	S S	Set of directions
dirmat	$\overset{\circ}{\mathbf{S}}$	Directions stacked in a matrix
\matX	X	
matI	Ī	
\arot	X	
cosmat	\mathbf{C}	
\cosmatij	C_{ij}	
\distmat	$\overset{{}_{\circ}}{\mathbf{D}}$	
\distmatij	D_{ij}	
\simmat	\mathbf{Y}^{Dij}	Similarity matrix
\simmatij	${ m Y}_{ij}$	
\simmatii	$\overset{1}{\mathrm{Y}}_{ii}$	
\simmattl	$\overset{{}_{1}}{\mathrm{Y}}_{kl}$	
\algorparam		
\shannon	$\gamma \ \mathrm{H}$	
\fov	FOV	field of view
/± • •	rov	noid of view

\	CIZ	
\SKalgo	SK	Shepard-Kruscall algorithm
\SBSEw	$SKv+w \ SKv$	An extension to the SK algorithm
\SBSE	SKV	An extension to the SK algorithm (wit
articles/dds	$DDS\ report$	
\ddsres	ρ	Resolution of the sensor in a DDS.
ddsarea	$ \mathcal{S} $	Area of the manifold S .
ddsbound	$d_{ m max}$	Bound on the maximum diffeomorphis
\DDS	DDS	'
\dds	DDS	'
ddsl	DDSL	'
DDSsu	$DDS(\mathcal{S};\mathfrak{U})$	'
DDSLsvu	$DDSL(\mathcal{S},\mathcal{V};\mathcal{U})$,
bgDDSfamily	DDS	, , , , , , , , , , , , , , , , , , ,
\bgDDSLfamily	DDSL	· · · · · · · · · · · · · · · · · · ·
\diffeoURL	888	Model
\cmdAlphabet	$\mathfrak U$, , , , , , , , , , , , , , , , , , ,
\ncmdwords	u	Number of commands words.
obsspD	$d^{\mathcal{S}}$	Metric on S .
\diffId	$\stackrel{\circ}{Id}_{\mathcal{S}}$	Identity diffeomorphisms.
\diffU	Γ	Uncertainty of estimated diffeomorphis
\diffDist	d^{Diff}	Distance between two diffeomorphism.
\cmdDist	${\mathcal D}_{ m cmd}$	Distance between two dimeomorphism. Distance between two commands.
\cmdDist	$\mathcal{A}_{ ext{cmd}}$	Anti-distance between two commands.
\images	$\mathbb{F}(\mathcal{S})$	Allti-distance between two comments.
\obspsV	\mathcal{V}	viewport
\dospsv \ddsfov	$\stackrel{\scriptstyle V}{\scriptstyle {\cal V}}$	viewport viewport
,	$rac{v}{v^{\overline{ m pr}}}$	
\obspsVunpred	$\mathcal{V}^{\mathrm{pr}}$	undpredictable part
\obspsVpred	•	predictable part
\obspsVunpredt	$V_t^{\overline{ m pr}}$	undpredictable part at time t
\obspsVpredt	$\mathcal{V}_t^{ ext{pr}}$	predictable part at time t
\ddsctod	C_TO_DIFF	~ / •
\ddsste	x	State of a DDS (element)
\ddsst	$oldsymbol{x}$	State of a DDS
articles/deepdyn	Learning of latent/o	deen dunamics
\ldmap		Map from latent state to instantaneous
\hclass	$\gamma \ {\cal H}$	Hidden class
\iclass \iclass	\mathcal{M}	Instantnaeous class
/ICIASS	JV1	Histanthacous Class
articles/despl	Parallel learning pa	uper
$\mbox{mycode}\{\dots\}$		
\desplStats	Stats	
despliStats	IStats	
\desplData	Data	
\desplIData	IData	
\desplModels	Models	
\desplIModels	IModels	
\desplinatels \desplicarn	learn	
\despliearn	ilearn	
/dophiiiodin	noun	

	desplfilter	filter	
	desplfmodel	fm	
	desplistats	istats	
	desplglue	glue	
	desplmglue	mglue	
	\desplstats	stats	
	\desplmerge	merge	
	\desplInter	I	Interval
	\patternA	Slice-Stats-Merge	
	\patternB	Split - Stats - Glue	
	\patternC	Filter-Learn-Glue	
	\patternD	Recursive-Learn	
	\proto	A2	
	\slicelen	slicelen	
	\njobslearn	n_{learn}	
	\njobsmerge	$n_{ m merge}$	
	\njobstotal	$n_{ m jobs}$	
	12300000	rojobs	
	articles/compmake	Compmake	
_	\Compmake	Compmake	
	parmake	parmake	
	sgemake	sgemake	
	articles/dptr1	Technical report for diffe	oplanning
	articles/dptr1/spaces	spaces	
	\SetImages	Im	
	SetUImages	UIm	
	genericdist{,}		
	\genericudist{,}		
	obsstart	$oldsymbol{y}_{ ext{start}}$	
	obsgoal	$oldsymbol{y}_\circ$	
	SetPlans	Plans	
	\planSp	Plans	
	\redplans	RedPlans	reduced plans
	\\plan	p	a generic plan
	\plang	p_{\circ}	true plan
	\planf	p^{\star}	The solution found
	\zeroplan	\emptyset	
	\obsu	z	Scalar uncertainty
	\obsue	z	Scalar uncertainty
	\sarea	$\stackrel{\cdot }{A}$	area around pixel s
	\dd	arphi	Generic diffeomorphisms
	\dde	arphi	Generic diffeomorphisms
	\ddu	$\overset{arphi}{\gamma}$	its uncertaint
	\ddue	$\gamma \sim \gamma$	its uncertaint
	\uddiffSp	, UDiff	TOO GIFCOI UMITU
	/ www.r.v.T.	QDIII	
	articles/dptr1/structure	Diffeo structure	
_	dscommute	commute	
	\dsinverse	inverse	
	· ·		

dssame	same	
dsvoid	void	
\SOtwo	SO(2)	
articles/dptr1/simplification	plan reduce	
\plantodiff	p_to_d	
\ptod	p_to_d	
\pd	p_to_d	
\planreduce	PlanReduce	
noutoforder	noutoforder	TODO
articles/dptr1/distances	Distances	
\dDiffLone	$\begin{matrix} d_{L_1}^{Diff(\mathcal{S})} \\ \overline{d}_{L_1}^{UDiff(\mathcal{S})} \\ d^{\mathcal{S}} \end{matrix}$	
\dUDiffLone	$-\frac{1}{d} \stackrel{\text{Di}}{\text{Diff}} (S)$	
\dobsis \dobsis	$d^L_1 d^S$	
	ω	
\dImLone	dlm	
\dImLone \dImLtwo	$d_{L_1}^{ m lm} \ d_{L_2}^{ m lm}$	
· ·	a_{L_2}	
\dIm\{}		
	,	
\cmdOrd	\prec	
	CND	
\gnbc	GNB	
\bnbc	BNB	
\bngc	BNG	
\bntc	BNT	
\gebc	GEB	
\bebc	BEB	
\begc	$_{ m BEG}$	
\betc	BET	
\betcb	BETc	
\plansarea	$P_{ m near}$	
\algocover	cover	
\algoplanreduce	planreduce	
\algobidirectional	bidirectional-search	
dubinsys	Dubin's car	
orbitsys	Orbit camera	
$\mathtt{markit}\{\ldots\}$		
\markA	†	
\markB	‡	
markC	‡ §	
distthres	c	
btrue	true	
bfalse	false	
botherwise	otherwise	
\cmdleft	u_{left}	
\cmdright	u_{right}	
\cmdup	$oldsymbol{u_{top}}$	
\cmddown	$oldsymbol{u_{down}}$	
\ \imvis	vis	Visibility
\minvis	v_0	v

\ 1:	7	1.1 1.11
\maxdis	d_g	goal threshold
\impred	pred	Image prediction
\plA	RLrl	
articles/neucontrol	neuromorphic con	ntrol
		Clip up to some boundary
\maxu	b	
\clipu	sat_b	
\gain	κ	
\settime	\mathbb{T}	
\controllerLast	C1	Uses last event
\controllerTI	C2	Time integrale
\controllerTS	C3	time smoothed
\controllerTN	C4	Time neural
COULTIGITET IN	U 4	Time neurai
articles/optcam	$optimal\ sensor$	
\ds	Δ_s	Spatial sampling
\dt	Δ_t	Temporal sampling
\db	Δ_b°	Brightness threshold
\dvsth	Δ_b°	Threshold
\camexp	$\overset{-\circ}{\mathrm{EX}}$	Exposure
mseps	MSE_{ps}	periodic sampling
\mseeb	$ m MSE_{eb}$	MSE event based
\bwps	$\mathrm{BW}_{\mathrm{ps}}$	bandwidth periodic sampling
\bweb	$\mathrm{BW}_{\mathrm{eb}}$	bandwidth event based
		Dangwighii event baseg
\ori	α	
articles/estgroups	Estimation with s	symmetries
articles/estgroups/state	State	
\esSt	x	State
\esStDim	n	Dimension of state space
\esStSp	\mathfrak{X}	State space
\esStDist	$\mu^{\mathfrak{X}}_{m{x}}$	Prior for state
(60000100	$\mu_{m{x}}$	I HOI TOI STATE
articles/estgroups/observations	Observations	
\es0bs	$oldsymbol{y}$	Observations
\esObsDim	m	Observations dimensions
\es0bsSp	y	Observations space
\\es0bsMap	$\overset{\circ}{h}$	Observation map
_		y = nh(x)
		<pre>\$\es0bs = \esNuis \es0bsMap(\esSt)\$</pre>
		4 / 55555
articles/estgroups/nuisances	A 7 ·	
	Nuisances	
\esNuis	n	Nuisance
\esNuis \esNuisSp	n N	Nuisance group
\esNuis	n	
\esNuis \esNuisSp \esNuisDist	$egin{array}{c} oldsymbol{n} \ \mathrm{N} \ \mu_{oldsymbol{n}}^{\mathrm{N}} \end{array}$	Nuisance group Nuisance distribution
\esNuis \esNuisSp \esNuisDist articles/estgroups/estimators	$egin{array}{c} m{n} \\ m{N} \\ m{\mu_n^N} \\ Estimators, \ risks \end{array}$	Nuisance group Nuisance distribution and performances
\esNuis \esNuisSp \esNuisDist	$egin{array}{c} oldsymbol{n} \ \mathrm{N} \ \mu_{oldsymbol{n}}^{\mathrm{N}} \end{array}$	Nuisance group Nuisance distribution

\esEstSp0pt	\mathcal{M}^{\star}	Optimal subset of estimators
esRisk	e	Risk function
esRiskSp	3	Risk space
esRiskDist{}		Risk distribution for given estimator
\esRiskDistP0	\preceq	Partial order defining preference on dis
\esProb	$\overset{\preceq}{\mathcal{P}}$	Estimation problem
articles/estgroups/symmetries	Symmetries in the	e problem
\esStAb	α	Abstract state
\esStAbSp	$\mathcal A$	Abstract space
\esRep	arphi	Representation
(T	,	$\varphi: x \mapsto \alpha.$
		<pre>\$\esRep: \esSt \mapsto \esStAb\$.</pre>
\esStSym	\mathbf{A}	Group of symmetries of the state
\esObsSym	В	Group of symmetries of the observation
\esRiskSym	\mathbf{C}	Group of symmetries of the risk function
\esPOSym	D	Group of symmetries acting on the par
\esProbSym	${\mathcal S}$	Tuple of symmetries
articles/groupspectral	Group spectral pro	nnerties
\gsHom	HomMaps	Induced homomorphisms.
\gsImage	Image	induced nomomorphisms.
\gsEqs	EqSet	Fixed points of a function.
\gsGA	GrAct	If the function is the action of a group.
, =	GIACT	
\gsGAsym	 	Used to specify that a function can be
\gsSym	$egin{array}{c} { m Sym} \\ { m SCan} \end{array}$	Set of symmetries
\gsStrongCan		Strong canonization operator
\gsWeakCan	WCan	Weak canonization operator
\gsEquiCan	BCan	Bold canonization operator
\gsEndoCan	MCan	Mild canonization operator
\gsUnCan	UCan	Unstructured canonization operator
\gsNuis	Sample	
regular	regular	TT / 1 1 1
\unstr	~	Unstructured symbol.
\jokFunc	*	Joker function
\zerFunc	0	Zero function
articles/groupspectral/defs	Group spectral pro	pperties
\gsdContravariant	<u>−1</u>	Contravariance
\gsdInvariant	$\xrightarrow{0}$	Invariance
\gsdEquivariant	$\stackrel{Id}{\longrightarrow}$	Equivariance
\gsdIntroduces	*	Nuisance introduced
\gsdUnstructured	$\overset{\sim}{\longrightarrow}$	Unstructured result
	.	
articles/invariances	Invariances	
		Dual of a representation nuisance
\brel	\leq_B	Simulation partial order
\bsim	\sim_B	Simulation relation
articles/jbds	$Symbols\ introduce$	$d\ in\ JBDS$

\veh	В	A vehicle body
\vehBody	B	A vehicle body
\vehKin	K	Vehicle kinematics
\vehSensPos	$m{r}$	Sensor relative pose
vehSensFun	ψ	Function that defines an exteroceptive
\env	$\stackrel{\cdot}{e}$	Environment
\envSp	${\cal E}$	Environment space
\envo	$\mathcal O$	Obstacles in the environment
\envt	${\mathcal T}$	Texture (function on $\partial \mathcal{O}$)
\envf	\mathcal{F}	Field sensed by field sampler
\envob	$\partial \mathcal{O}$	Obstacles boundaries
obspsDiff	$\mathcal{S}^{ ext{dif}}$	
\obspsNotDiff	$\mathcal{S}^{\overline{ ext{dif}}}$	
, _	VS	ideal camera
\sic	RF	
\sir		ideal range finder
\sif	FS	ideal field sampler
\sicV	$VS(\mathcal{V})$	ideal camera with viewport
\sirV	$ ext{RF}(\mathcal{V})$	ideal range finder with viewport
\sifV	$\mathrm{FS}(\mathcal{V})$	ideal field sampler with viewport
$zoh{}$		Zero order hold
articles/jbds/misc	Used in proofs for	for JBDS
\ygneig	$\frac{1}{N}$	A neighborhood of y_{\circ} .
articles/jbds/robots		
\allrobots	Robots	The set of all robots
\vehRob	ISV	Idealized Simple Vehicles
vehRobNuis	IŠV	Vehicle robots with nuisances
\robVeh	ISV	
(
articles/optbody		of body and mind
MA	${f A}$	
\MB	В	
\MC	\mathbf{C}	
\MG	${f G}$	
MH	\mathbf{H}	
ML	${f L}$	
\MQ	${f Q}$	
\MP	P	
\MS	${f S}$	
\MSigma	$oldsymbol{\Sigma}$	
\MV	$\overline{\mathbf{V}}$	
\MW	$\mathbf{\hat{W}}$	
\SP	P_{s}	Sensing power
\AP	$\stackrel{r_{ m s}}{P_{ m a}}$	Actuation power
· ·	E	
\SE		Stored energy Traingtony officiency ratio
\ER	r	Trajectory efficiency ratio
\HP	Θ	Heading precision
\np	n	Number of pixels

graphs	Graphs	
\paths	paths	All paths in a graph
\walks	walks	All paths in a graph
nodes	nodes	nodes in a walk
\edges	edges	edges in a walk
\sources	sources	
1		sources(cG)
		\$\sources(\cG)\$
\sinks	sinks	
1		sinks(cG)
		\$\sinks(\cG)\$
		. 1
articles/ragh	Resource Allocation	n problem
articles/ragh/rgraph	Resource Graph	
\rN	rN	A resource graph's vertices
\rE	rE	A resource graph's edges
\rG	rG	A resource graph
\rn	rn	A resource node
\rnops	rn.capacity	A resource
\rnA	rn_1	
\rnAops	$rn_1.capacity$	
\rnB	rn_2	
\rnBops	$rn_2.capacity$	
\re	re	A resource edge
\relink	re.link	A resource
\relatency	re.latency	
\rebandwidth	re.bandwidth	
\reA	re_1	
\reB	re_2	
\reAlatency	$re_1.latency$	
\reAbandwidth	$re_1.bandwidth$	
reBbandwidth	$re_2.bandwidth$	
articles/ragh/cgraph	Computation Grap	
\cG	cG	A computation graph
CN	cN	A cgraph's vertices
CE	cE	A cgraph's edges
\cn	cn	A computation node
cnops	cn.ops	A computation node's ops
\cnA	cn_1	
\cnB	cn_2	
\cnAops	$cn_1.ops$	
$\backslash \mathtt{cnBops}$	$cn_2.ops$	
cce	ce	A computation edge
\ceA	ce_1	A computation edge
\ceB	ce_2	A computation edge
cesize	ce.size	Signal size (bytes)
\ceAsize	$ce_1.size$	
\ceBsize	$ce_2.size$	

articles/ragh/links	Physical links	
\PL	PLinks	Physical links
\pl	pl	Physical link
\pplA	pl ₁	plA conflicts
\plAlatency	pl ₁ .latency	•
\plAbandwidth	pl ₁ .bandwidth	
\pllatency	pl.latency	
\plbandwidth	pl.bandwidth	
/Produce recon	P1104114	
articles/ragh/allocations	Allocations	
as	as	An assignment
asm	as.m	The momomorphism
asmi	$as.m^{-1}$	The right inverse of the momomorphism
asla	as. $lpha$	The link allocation
\asca	as. eta	The computation allocation
articles/soattotheory	Symbols used by Soa	atta
\scene		scene
\representation	ξ ξ ξ φ	representation
· -	\$ êv	
\minrep	ζ΄.	minimal representation
\feature	ϕ	feature
\maxinv	ϕ^{\wedge}	maximal invariant feature
\suffstat	ϕ^{ee}	maximal invariant feature
image	${\cal I}$	image
addnoise	n	additive noise
\imageform	h	image formation function
\groupnuis	g	nuisance which have the structure of a
\othernuis	u	other non-invertible nuisance
lightfield	${\cal L}$	all possible images generated by a scen
complex	H	Complexity measure
actinfo	${\cal H}$	Actionable information
covdet	ψ	Covariant detector
articles/soattotheory/mseerep	$msee\ report$	
		Domain sampling operator (subset)
		Domain sampling operator (subset)
		Value Discretization operator (subset)
		Smoothing operator (kernel)
		Censoring operator (field of view)
		Occlsions Occlsions
	r	Occisions
\imform	I	
\contrast	f	
articles/thesis	Special symbols for t	
labelrefinement	ref	Indicates a refinement
\pchomeoR	$PieceHomeo(\mathbb{R})$	1
		used in properties 1.dot
$\dim\{\ldots\}$		
\bitZ		1
\bitO	•	
\infbinstrings	$\{\Box, \boxdot\}^{\mathbb{N}}$	Set of infinite binary strings

\chineseClose	(nosummary)	The Chinese character corresponding t
\twosignals	y^i,y^j	
\twosignalsa	y^i	
\twosignalsb	y^j	
\twosignalscolon	$y^i;y^j$	
\semrelorder	m	Order of a generic semantic relations
\infinit	d	Infinitesimal
\genericsemrel	${\cal R}$	A generic semantic relation.
\gensemrelsym	$Sym(\mathcal{R})$	Symmetries of the semantic relation
\genericsimilarity	\vec{R}	A generic similarity measure.
\obsecdf	c	CDF of one sensel
\cmdreverse	ho	The map from a command to its revers
\cmdopt	$oldsymbol{u}^{\star}$	The optimal command
\cmdnop	u^{nop}	Command corresponding to "resting".
\rew	R	Reward function
\placeneig	Neighbors	
\genericrel	~	Generic relation
\notgenericrel	<i>~</i>	
/120 08 02222 2 2 2 2	,	
articles/thesis/longexample	$Long\ example$	
\CalibA	CalibA	
\CalibB	CalibB	
\Smoothkernel	k	
\Smooth	$Smooth_k$	
\BGDSAg	BGDSagent	
\BGDSAgS	BGDSagentS	
\DImagesU	$\mathcal{D}(Im(\mathcal{S});\mathcal{U})$	
\DImagesR	$\mathcal{D}(Im(\mathcal{S});\mathbb{R}^{n_{oldsymbol{u}}})$	
ABehavior	behavior	
\DImagesSphU	$\mathcal{D}(Im(\mathbb{S}^2);\mathcal{U})$	
hobs	$oldsymbol{x}$	
hobse	x = x	
bound	$\stackrel{x}{M}$	
bound	1V1	
common	Common symbols to	o all papers
common/abbreviations	Other abbrevations	
\setA	\mathcal{A}	
\setB	В	
\setC	C	
\setU	\mathcal{U}	
\setM	\mathfrak{M}	
\setY	y	
\setX	$\boldsymbol{\chi}$	
\setZ	\mathcal{Z}	
\setS	S	
grG	G	
\grH	Н	
\grK	K	
\grN	N	
(0==-	-,	

common/abbreviations/invariances/	abbreviations	
\sqa	a	
\sqae	a = a	
\sqb	$oldsymbol{b}^{a}$	
–		
\sqbe	b	
\sqc	$oldsymbol{c}$	
\sqce	c	
common/acronyms	A cronyms	
Common, actoriyms	Heronginia	
common/algebra	Algebra	
ones	1	
\idMat	I	Identity matrix
\matTrace	Tr	Trace of a matrix.
\angleFun		Angle function
, ,		9
\flatten	vec	Matrix-to-vector rearrangement.
common/basic	${\it Basic \ stuff}$	
\setfun	\Rightarrow	Symbol for set functions (one-to-many)
algfield	field	Field.
(* 3		$field(X, +, \times)$ is an algebraic field.
		\$\algfield(\aset{X},+,\times)\$ is an
\wellorder	wellorder	A well ordered set.
/merrorder.	wellorder	
		wellorder(\mathcal{X}, \leq) is a well-ordered set.
		$\$ wellorder(\aset{X},\leq)\$ is a wel
		set.
\orderedfield	orderedfield	A well ordered field.
		orderedfield $(\mathfrak{X},+,\times,\leq)$ is a well-ordere
		<pre>\$\orderedfield(\aset{X},+,\times,\le</pre>
		well-ordered field.
\powerset	powerset	Power set of a space
\supp	supp	Support of a set
\idFunc	ld	The identity function
	1	Inverse function
\invFunc	•	
\funcComp	0	Function composition
\emptysequence	Ø	Empty sequence
\allFuncs	Functions	All maps from a space to the other
\D	d	Used for integrals
sign	sgn	Sign function
	2	
common/sequences	Sequences	
\sequences	Sequences	Set of sequences
\contsequences	ContSequences	Set of continuous sequences
\Aut	Aut	Automorphism group
contFuncs	Continuous	Continuous functions on some metric s
		Continuous (A) are all continuous funct
		\$\contFuncs(\setA)\$ are all continuous
	2.6	on \$\setA\$.
\differFuncs	Differentiable	Differentiable functions
\partitions	partitions	
\mExp	mexp	Matrix exponential
, –		_

\1:0		D' O ' ' '
\big0	$\mathcal O$	Big-O notation
\smallo	O	
$\mbox{metricon}\{\ldots\}$	•	
\definedas	≜	
\crossprod	×	cross-product
\gsDom	Domain	
\gsCod	Codomain	
$\interCC\{\ldots,\ldots\}$		
$\interCO\{\ldots,\ldots\}$		
$\left\langle \text{interOC}\left\{ \ldots, \ldots \right\} \right\rangle$		
\inter00\{,\}		
\unitInterval	[0, 1]	
\	[/]	
common/basic/logic	Logic	
\logicAnd	^	Logic "and"
\logicOr	V	Logic "or"
logicNot	· ¬	Logic "not"
/0-04100	•	20810 1100
common/simplesets	$Simple\ sets$	
reals	\mathbb{R}	Real numbers
\natnumbers	N	Natural numbers
ratnumbers	\mathbb{Q}	Rational numbers
hreals	*R	Hyper-real numbers
\nonNegReals	\mathbb{R}_{ullet}^+	Non negative reals
\posReals	\mathbb{R}_{\circ}^{+}	Strictly positive reals
\nzReals		Nonzero reals
\nzkears	\mathbb{R}_{\circ}	Nonzero reais
common/blackboxes	$Black\ boxes$	
		A black box
\bbD	D	
		Inverse of a black box
		left inverse of a black box
		right inverse of a black box
\alloutcomes	AllOutcomes	fight inverse of a black box
\alloutputs	AllOutputs	All outputs of a given system
, _		
\bbDelay	Δ	The one-step delay system.
\vertblock	I	A1- ++
\bbAccum	ļii.	Accumulator system
\inLoop	Loop	Closes the loop around a system
\idSys	IdSys	The identity system
\bbSp	${\mathfrak D}$	Set of black boxes
		$\mathcal{D}(\mathcal{X}; \mathcal{Y})$ are all the black boxes from \mathcal{X}
		<pre>\$\bbSp(\setX;\setY)\$ are all the bla</pre>
		<pre>from \$\setX\$ to \$\setY\$.</pre>
\bbFM	$\mathcal{D}_{\sf fm}$	Systems with finite memory
\bbSpInv	\mathcal{D}^{\star}	Set of invertible systems
\bbFMinv	\mathcal{D}^{\star}_{fm}	Systems with finite memory and invert
bbSpIns	$\mathcal{D}_{ ext{inst}}$	Set of instantaneous systems
bbSpDet	$\mathcal{D}_{ ext{det}}$	Deterministic systems
\bbSpInvIns	$\mathcal{D}^{\star}_{\mathrm{inst}}$	Set of invertible and instantaneous syst
· —	11150	v

		$\mathcal{D}^*(\mathcal{A})$ is a subset of $\mathcal{D}(\mathcal{A};\mathcal{A})$
		<pre>\$\bbSpInv(\setA)\$ is a subset of</pre>
		${\tilde{s}(\bar{s})}$
\bbSpCore	\mathcal{D}°	Systems up to representation
common/blackboxes/abbreviations		
\bbDinv	D^{-1}	
\bbDri	$oldsymbol{D}^R$	
\bbDli	\boldsymbol{D}^L	
\bbE	$oldsymbol{E}$	
\bbF	$oldsymbol{F}$	
\bbG	$\overset{-}{G}$	
\bbH	H	
\bbL	$\stackrel{oldsymbol{II}}{L}$	
1		4
\bbSpBA	$\mathcal{D}(\mathcal{B};\mathcal{A})$	to write
\bbSpAB	$\mathcal{D}(\mathcal{A};\mathcal{B})$	to write
common/blackboxes/deprecated	Deprecated	
\bb0p	\oplus	Composition operation
\inSeries	Series	Series of two systems
	\mathcal{D}_*	Any of the following
\bbSpAny	D_*	Discrete time
	$\mathfrak{D}^{\mathrm{c}}$	
\bbSpCT	-	Continuous time
\bbSpEB	\mathcal{D}^{e}	Event-based
common/boot	Bootstrapping syr	nbols
common/boot/obscmd	Observations and	commands
\world	Observations and	\mathcal{L} commands The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$.
\world \obs	Observations and	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector.
\world \obs \obse	Observations and	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector. Observations element.
\world \obs	Observations and $oldsymbol{y}$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector.
\world \obs \obse	Observations and $oldsymbol{y}$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element.
\world \obs \obse \cmd	Observations and $oldsymbol{w}$ $oldsymbol{y}$ $oldsymbol{y}$ $oldsymbol{u}$	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels
\world \obs \obse \cmd \cmde	Observations and m y y u u	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element.
\world \obs \obse \cmd \cmde \nobs	Observations and $oldsymbol{w}$ $oldsymbol{y}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{u}$	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels
\world \obs \obse \cmd \cmde \nobs \ncmd	Observations and $oldsymbol{w}$ $oldsymbol{y}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{n}_{oldsymbol{v}}$	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators
\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp	Observations and m y y u u ny nu y nu	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space
\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSph	Observations and m y y u u ny nu y nu	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$.
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSph \obsSph</pre>	Observations and $oldsymbol{w}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{n_y}$ $oldsymbol{n_u}$ $oldsymbol{y}$ $oldsymbol{U}$ $oldsymbol{\overline{U}}$ $oldsymbol{\overline{U}}$	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$.
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd</pre>	Observations and $oldsymbol{w}$ $oldsymbol{y}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{n_u}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{\overline{u}}$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSph \obsSph</pre>	Observations and $oldsymbol{w}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{n_y}$ $oldsymbol{n_u}$ $oldsymbol{y}$ $oldsymbol{U}$ $oldsymbol{\overline{U}}$ $oldsymbol{\overline{U}}$	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$.
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd</pre>	Observations and $oldsymbol{w}$ $oldsymbol{y}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{u}$ $oldsymbol{n_u}$ $oldsymbol{y}$ $oldsymbol{u}$ $oldsymbol{\overline{u}}$	The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSph \obsSphd \obsSpd</pre>	Observations and $f m$ $f y$ $f y$ $f u$ $f u$ $f n_{f u}$ $f y$ $f U$ $f \overline{U}$ $f \overline{y}$ $f d^{\overline{y}}$ $f d^{\overline{y}}$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd \obsSphd \obsSphd \obsSpd</pre>	Observations and $f w$ $f y$ $f y$ $f u$ $f v$ $f d^{f y}$ $f d^{f y}$ $f d^{f y}$ $f d^{f y}$ $f Spatial\ sensors$ $f S$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$ Metric on $d^{\overline{\mathcal{Y}}}$
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd \obsSphd \obsSphd \obsSpd </pre>	Observations and m y y u u n_y n_u y u \overline{u} \overline{y} $d^{\overline{y}}$ $d^{\overline{y}}$ d^y Spatial sensors \mathcal{S} \mathcal{S}	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$ Metric on $d^{\overline{\mathcal{Y}}}$ Observation physical space. Observation physical space.
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd \obsSphd \obsSphd \obsSpd</pre>	Observations and $f w$ $f y$ $f y$ $f u$ $f v$ $f d^{f y}$ $f d^{f y}$ $f d^{f y}$ $f d^{f y}$ $f Spatial\ sensors$ $f S$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$ Metric on $d^{\overline{\mathcal{Y}}}$
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd \obsSphd \obsSpd common/boot/spatialsensors \obsps \genimages \imps</pre>	Observations and ${\bf m}$ ${\bf y}$ ${\bf y}$ ${\bf u}$ ${\bf u}$ ${\bf u}$ ${\bf n_y}$ ${\bf n_u}$ ${\bf y}$ ${\bf U}$ ${\bf \overline U}$ ${\bf \overline y}$ ${\bf d}^{{\bf \overline y}}$ ${\bf d}^{{\bf \overline y}}$ ${\bf d}^{{\bf \overline y}}$ ${\bf d}^{{\bf \overline y}}$ ${\bf Spatial\ sensors}$ ${\bf \mathcal S}$ ${\bf S}$ ${\bf Im\ Im}({\bf S})$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$ Metric on $d^{\overline{\mathcal{Y}}}$ Observation physical space. Observation physical space. Images on physical space \mathcal{S} .
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd \obsSphd \obsSphd \obsSpd common/boot/spatialsensors \obsps \genimages \imps common/boot/servo</pre>	Observations and ${\bf m}$ ${\bf y}$ ${\bf y}$ ${\bf u}$ ${\bf u}$ ${\bf n_y}$ ${\bf n_u}$ ${\bf y}$ ${\bf u}$ ${\bf u}$ ${\bf v}$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$ Metric on $d^{\overline{\mathcal{Y}}}$ Observation physical space. Observation physical space. Images on physical space \mathcal{S} .
<pre>\world \obs \obse \cmd \cmde \nobs \ncmd \obsSp \cmdSp \cmdSp \cmdSph \obsSphd \obsSphd \obsSpd common/boot/spatialsensors \obsps \genimages \imps</pre>	Observations and ${\bf m}$ ${\bf y}$ ${\bf y}$ ${\bf u}$ ${\bf u}$ ${\bf u}$ ${\bf n_y}$ ${\bf n_u}$ ${\bf y}$ ${\bf U}$ ${\bf \overline U}$ ${\bf \overline y}$ ${\bf d}^{{\bf \overline y}}$ ${\bf d}^{{\bf \overline y}}$ ${\bf d}^{{\bf \overline y}}$ ${\bf d}^{{\bf \overline y}}$ ${\bf Spatial\ sensors}$ ${\bf \mathcal S}$ ${\bf S}$ ${\bf Im\ Im}({\bf S})$	The "world", an element of $\mathcal{D}(\mathcal{Y};\mathcal{U})$. Observations vector. Observations element. Commands vector. Commands element. Number of sensels Number of actuators Observation space Commands space Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_u}$. Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_y}$. Metric on $d^{\overline{\mathcal{Y}}}$ Metric on $d^{\overline{\mathcal{Y}}}$ Observation physical space. Observation physical space. Images on physical space \mathcal{S} .

obsge	y_\circ	Goal observations (element).
obsgl	$oldsymbol{z}_{\circ}$	Goal observations (element).
obsgle	z_{\circ}	Goal observations (element).
common/boot/abbreviations	Abbreviations	
\bbSpYU	$\mathcal{D}(\mathcal{Y};\mathcal{U})$	to write
\bbSpYXU	$\mathcal{D}(\mathcal{Y}, \mathcal{X}; \mathcal{U})$	to write
\bbSpUY	$\mathcal{D}(\mathcal{U};\mathcal{Y})$	to write
\bbSpInvY	D*(Y)	Representation nuisances on command
\bbSpInvU	$\mathcal{D}^{\star}(\mathcal{U})$	Representation nuisances on observation
\bbSpInvYU	$\mathcal{D}^{\star}(\mathcal{Y};\mathcal{U})$	Representation nuisances
\bbSpInvUY	$\mathcal{D}^{\star}(\mathcal{U};\mathcal{Y})$	r. F
\bbSpCoreYU	$\mathcal{D}^{\circ}(\mathcal{Y};\mathcal{U})$	Systems up to representation
common/vehicles	The Vehicles unive	oreo
\veEnvironments	Environments	All Vehicles environments
1		all Vehicles sensors
\veSensors	Sensors	
\veDynamics	Dynamics	all Vehicles dynamics
\veVehicles	Vehicles	
common/vehicles/mah	todo	
\veSce	S	
\veVeh	V	
\veMov	M	
veAdd	Α	
\veJoi	J	
\vePar	Р	Parallel composition of sensors
\veNcmd	U	•
\veNobs	Y	
common/expressions	${\it Miscellaneous\ expr}$	ressions
\etal	et al.	
\eg	e.g.,	
\etc	etc.	
\ie	i.e.,	
\viceversa	viceversa	
		Versus
\vs	vs ad hoc	versus
\adhoc	ad hoc	
\apriori	apriori	
common/goodformulas	Better formulas an	
		Explanation in formulas
$\left\{ \dots \right\}$		Highlight something in formulas (observed)
		Highlight something in formulas (com
		both observations and commands
common/yesorno	${\it Miscellaneous\ func}$	tions for document formatting
\ns		
tickYes	✓	
\tickNo	7	
NA	n/a	
,	<i>i</i>	

7 √ 7 ½ +1 -1 Incomplete symbols to write [xxx] [xxx] [xxx] ??? (Not sure) (Don't like this) (not formal) ??? [0,1]	small one half Small plus one Small minus one (e.g. in smallmatrix Marker for sections to write A placeholder incomplete bad notation, this should change late incomplete
7	Small plus one Small minus one (e.g. in smallmatrix Marker for sections to write A placeholder incomplete bad notation, this should change late
1/2	Small plus one Small minus one (e.g. in smallmatrix Marker for sections to write A placeholder incomplete bad notation, this should change late
Incomplete symbols to write [xxx] [xxx] [xxx] ??? (Not sure) (Don't like this) (not formal) ???	Small plus one Small minus one (e.g. in smallmatrix Marker for sections to write A placeholder incomplete bad notation, this should change late
Incomplete symbols to write [xxx] [xxx] [xxx] ??? (Not sure) (Don't like this) (not formal) ???	Small minus one (e.g. in smallmatrix Marker for sections to write A placeholder incomplete bad notation, this should change late
Incomplete symbols to write [xxx] [xxx] [yy? (Not sure) (Don't like this) (not formal) ???	Marker for sections to write A placeholder incomplete bad notation, this should change late
[xxx] [xxx] [xxx] [??? [??? (Not sure) (Don't like this) (not formal) ???	A placeholder incomplete bad notation, this should change late
[xxx] [xxx] ??? ??? (Not sure) (Don't like this) (not formal) ???	A placeholder incomplete bad notation, this should change late
[xxx] ??? ??? (Not sure) (Don't like this) (not formal) ???	incomplete bad notation, this should change late
[xxx] ??? ??? (Not sure) (Don't like this) (not formal) ???	bad notation, this should change late
[xxx] ??? ??? (Not sure) (Don't like this) (not formal) ???	bad notation, this should change late
(Not sure) (Don't like this) (not formal)	bad notation, this should change late
(Not sure) (Don't like this) (not formal)	bad notation, this should change late
(Not sure) (Don't like this) (not formal)	bad notation, this should change late
(Don't like this) (not formal)	bad notation, this should change late
(not formal)	bad notation, this should change late
999	bad notation, this should change late
999	bad notation, this should change late
	bad notation, this should change late
[0,1]	
[0, 1]	
[0, 1]	-
[0, 1]	
[0,1]	
E / J	
Differential geometry	
Diff	Diffeomorphism
	$Diff(\mathcal{M})$ are the diffeomeorphisms from
	$\star (\Lambda (M)) $ are the diffeometric state of the diffeometric state of the state of
	$\Lambda = \{M\}$ to itself.
Diff ₊	Orientation-preserving diffeomorphis
$Homeo_+$	Orientation-preserving homeomorphi
	Diffeomorphisms with bounded curv
Homeo	Set of all homeomorphisms
Isom	Isometries group
	$Isom(\mathcal{M})$ are all the isometries of \mathcal{M} .
	\$\isometries(\aset{M})\$ are all th
	of $\alpha \$
	Diffeomorphisms that fix a point
Conformal	Conformal transformations
Manifolds	
	Unit circle.
	Unit sphere.
	Unit sphere
	ome sphere
пп	
	Diff Diff ₊ Homeo ₊ Diff _{vol} Homeo Isom

\gIdentity	e	Identity of a group
\tgroup	group	Group set with operations
		$group(G, \cdot)$ means G is a group under
		<pre>\$\tgroup(\agroup{G},\cdot)\$ means \$</pre>
		is a group under \$\cdot\$.
\haar	haar	Haar measure
		The Haar measure on \mathfrak{X} is haar X .
		The Haar measure on $\alpha \times X$ is \$
common/groups/famous	$Famous\ groups$	
\idGroup	ld	The trivial group with identity only.
\permutations	Perm	Set of permutation
extstyle ext		Stabilizer of a set
$\operatorname{\setminus functionsym}\{\dots\}$		Symmetries of a function
\allsubgroups	AllSubgroups	
$\setminus comgroup\{\dots\}$		Commutator sub group
\groupJoin	V	Group join
		Conjugation
\groupquotient	/	Group quotient
\groupsemidir	\rtimes	Semidirect product.
groupisom	\cong	Isomorphism
\issubgroup	≤	Subgroup relation.
normalsub	△	Normal subgroup relation
\actionsymbol (•	Group action.
		Companions functions
$ ag{transversalFuncs}$		Transversal functions
common/groups/matrix	${\it Matrix\ groups}$	
\orthogroup		Orthogonal group.
	0	
\trangroup	U T	Translation group
\trangroup \segroup		Translation group Special Euclidean group.
, – –	Т	~ -
segroup	T SE	Special Euclidean group.
\segroup \Egroup \SLgroup	T SE E	Special Euclidean group. Euclidean group. Special linear group
\segroup \Egroup \SLgroup \Diaggroup \PMgroup	T SE E SL D D_\pm	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elements
\segroup \Egroup \SLgroup \Diaggroup	$\begin{array}{c} T \\ SE \\ E \\ SL \\ D \\ D_{\pm} \\ Sc \end{array}$	Special Euclidean group. Euclidean group.
\segroup \Egroup \SLgroup \Diaggroup \PMgroup	T SE E SL D D_\pm	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elementage ± 1 on the diagonal matrices with ± 1 on the diagonal matrices
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup	$\begin{array}{c} T \\ SE \\ E \\ SL \\ D \\ D_{\pm} \\ Sc \end{array}$	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elementary between Diagonal matrices with ± 1 on the diagonal matrices of the identity
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup	T SE E SL D D_{\pm} Sc SO	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elements Diagonal matrices with ±1 on the diagonal matrices of the identity
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \soneggroup	T SE E SL D D_{\pm} Sc SO SO^-	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemediagonal matrices with ± 1 on the diagonal matrices of the identity Special orthogonal group.
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \sogroup \and soneggroup \affgroup	T SE E SL D D $_{\pm}$ Sc SO SO $^{-}$ Aff	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemediagonal matrices with ±1 on the diagonal matrices of the identity Special orthogonal group. Affine group
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \soneggroup \affgroup \affgroup	T SE E SL D D $_{\pm}$ Sc SO SO $^-$ Aff Aff $_+$	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices of the identity Special orthogonal group. Affine group Affine group
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \soneggroup \affgroup \affgroup \affgroupos \GL	T SE E SL D D $_{\pm}$ Sc SO SO $_{\pm}$ Aff $_{\pm}$ GL	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices of the identity Special orthogonal group. Affine group Affine group
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \soneggroup \affgroup \affgroup \affgroup \affgroup \affgrouppos \GL	T SE E SL D D_{\pm} Sc SO SO^{-} Aff Aff_{+} GL GL_{+}	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices of the identity Special orthogonal group. Affine group Affine group General linear group Special Euclidean algebra
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \soneggroup \affgroup \affgroup \affgroup \dffgroup \affgroup soneggroup \affgroup \solution \SE	T SE E SL D D $_{\pm}$ Sc SO SO $^{-}$ Aff Aff $_{+}$ GL GL $_{+}$ se so se	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices with ±1 on the diagonal group. Affine group Affine group General linear group Special Euclidean algebra Special Euclidean algebra
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \sogroup \soneggroup \affgroup \affgroup \dffgroup \affgroupos \GL \GLpos \se \soalgebra	T SE E SL D D $_{\pm}$ Sc SO SO $^{-}$ Aff Aff $_{+}$ GL GL $_{+}$ se so	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices with ±1 on the diagonal group. Affine group Affine group General linear group Special Euclidean algebra Special orthogonal group (rotation material)
\segroup \Egroup \SLgroup \Diaggroup \PMgroup \Scalegroup \sogroup \soneggroup \affgroup \affgroup \affgroup \affgroupos \GL \GLpos \se \soalgebra \sealgebra	T SE E SL D D $_{\pm}$ Sc SO SO $^{-}$ Aff Aff $_{+}$ GL GL $_{+}$ se so se	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices with ±1 on the diagonal matrices with ±1 on the diagonal group. Affine group Affine group General linear group Special Euclidean algebra Special Euclidean algebra Special orthogonal group (rotation matageness)
\segroup \Egroup \SLgroup \Diaggroup \Diaggroup \PMgroup \Scalegroup \sogroup \soneggroup \affgroup \affgroup \affgroupos \GL \GLpos \se \soalgebra \sealgebra \Sothree \SEthree \SEthree	$\begin{array}{c} T \\ SE \\ E \\ SL \\ D \\ D_{\pm} \\ Sc \\ SO \\ SO^{-} \\ Aff \\ Aff_{+} \\ GL \\ GL_{+} \\ se \\ so \\ se \\ SO \\ se \\ SO(3) \end{array}$	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices with ±1 on the diagonal group. Affine group Affine group General linear group Special Euclidean algebra Special orthogonal group (rotation material)
\segroup \Egroup \SLgroup \Diaggroup \Diaggroup \PMgroup \Scalegroup \soneggroup \affgroup \affgroup \affgroupos \GL \GLpos \se \soalgebra \sealgebra \SOthree \SEthree	$\begin{array}{c} T \\ SE \\ E \\ SL \\ D \\ D_{\pm} \\ Sc \\ SO \\ SO^{-} \\ Aff \\ Aff_{+} \\ GL \\ GL_{+} \\ se \\ so \\ se \\ SO(3) \\ SE(3) \end{array}$	Special Euclidean group. Euclidean group. Special linear group Diagonal matrices with non-zero elemed Diagonal matrices with ±1 on the diagonal matrices with non-zero elements Multiples of the identity special orthogonal group. Affine group Affine group General linear group Special Euclidean algebra Special Euclidean algebra Special orthogonal group (rotation matrices) Special Euclidean group

\S0threeAlg	se(3)	
\S0twoAlg	se(2)	
\setwo	SE(2)	
sethree	SE(3)	
\sotwo	$\widetilde{\mathrm{SO(2)}}$	
\sothree	SO(3)	
/8001166	50(0)	
common/groups/simple	Very simple groups	
\mgroup	$(\mathbb{R}_{\circ}, \times)$	Multiplication group
\mposgroup	$(\mathbb{R}^+_{\circ}, \times)$	Positive multiplication group
\mpmgroup	$(\pm 1, \times)$	+1/-1 multiplication group
, - 0 -	* * *	
\addgroup	$(\mathbb{R},+)$	Addition group
common/groups/simple/abbreviations	Abbreviations	
\addgroupn	$(\mathbb{R}^n,+)$	Addition group on \mathbb{R}^n
\affone	$Aff(\mathbb{R})$	Affine group 1D
\	* /	
affonepos	$Aff_+(\mathbb{R})$	Affine group 1D
\affn	$Aff(\mathbb{R}^n)$	Affine group in n dimensions.
\affnpos	$Aff_+(\mathbb{R}^n)$	Affine transformations preserving orien
common/probability	Probability	
\uniformdist	Uniform	Uniform distribution
\		
measuresupport	Support	Support of a probability measure
\processes	StocProcesses	Set of stochastic processes
\conditional	Conditional	Conditional distribution
		Conditional $(\mathcal{B}; \mathcal{A})$ is the set of condition
		tions
		<pre>\$\conditional(\setB;\setA)\$ is the s</pre>
		conditional distributions
\finaldist	Final	Stationary distribution of a stochastic
\measureSp	meas	Measure space.
modelatop	meas	$meas(\mathcal{X}, \Sigma, \mu)$ is a measure space.
		_
		$\mbox{\colored} \$ \measureSp(\aset{X},\Sigma,\mu)\$ is
\		space.
\probSp	prob	Probability space.
		$prob(\mathfrak{X}, \Sigma, \mu)$ is a probability space.
		$\scriptstyle \$ \probSp(\aset{X},\Sigma,\mu)\\$ is a
		space.
\measures	Measures	Set of probability measures on a set.
1		Try $\mu^{\mathcal{X}} \in Measures(\mathcal{X})$
		Try $\mu \in \text{Measures}(X)$ Try $\mu \in \text{Measures}(X)$
\dimag	δ	<pre>iry \$\mu{\aset{k}} \in \measures(\as</pre>
\dirac	0	
common/robotics	Robotics	
obsip	\overline{m}	Inner product bilinear form.
obsosp	O	Observation output space.
\dummySensel	s	
\pose		Robot poso $\mathbf{a} = (\mathbf{t} \cdot \mathbf{P}) \subset 0 \subset SE(2)$
·=	$oldsymbol{q}$	Robot pose $q = (t, \mathbf{R}) \in \mathcal{Q} \subset SE(3)$.
\posesp	Q	Pose space, subgroup of SE(3).
\posespAlg	q	Pose space algebra.
$\backslash \texttt{confspace}$	Q	Robot configuration space

\pos	t	Position in the world frame.
\posE1	t	Position in the world frame (element)
\rotm	R	Rotation matrix representing orientation
\rotme	R	Element of rotation matrix
lvel	$oldsymbol{v}$	Linear velocity
lvele	v	Linear velocity (element)
avel	ω	Angular velocity (as vector)
avele	ω	Angular velocity (element)
avels	ω	Angular velocity in 2D (scalar)
avelse	$\hat{oldsymbol{\omega}}$	Angular velocity (as skew-symmetric n
\njoints	n_j	Number of joints in a robot
attitude	\mathbf{R}	
\position	t	
common/robotics/fieldsmapler	$Field\ samplers$	
\field	\mathcal{F}	Field sampled by the field sensor.
fieldpos	$oldsymbol{z}$	Generic position in the world.
\fieldpose	z	Generic position in the world.
\worldSp	Maps	
common/robotics/old	Deprecated	
\wshape	s	
\wpose	$oldsymbol{p}$	
\worldsp	Maps	
\wshapesp	Shapes	
common/robotics/maps	$New\ stuff$	
		3.5
\mshape	$oldsymbol{s}$	Map shape.
\mshape \mpose	$oldsymbol{p}$	Map shape. Map pose.
	$oldsymbol{p}$ Shapes	Map pose. Shape space.
\mpose	$oldsymbol{p}$	Map pose.
\mpose \mshapesp	$oldsymbol{p}$ Shapes	Map pose. Shape space. Maps set $Maps = Shapes \times \mathrm{SE}(3)$.
\mpose \mshapesp \mapsp	p Shapes Maps	Map pose. Shape space. Maps set $Maps = Shapes \times \mathrm{SE}(3)$. Standard deviation
<pre>\mpose \mshapesp \mapsp common/statistics</pre>	$m{p}$ Shapes Maps $Misc\ statistics$	Map pose. Shape space. Maps set Maps = Shapes \times SE(3). Standard deviation Variance
<pre>\mpose \mshapesp \mapsp common/statistics \stddev</pre>	 p Shapes Maps Misc statistics std 	Map pose. Shape space. Maps set Maps = Shapes \times SE(3). Standard deviation
<pre>\mpose \mshapesp \mapsp common/statistics \stddev \var</pre>	 p Shapes Maps Misc statistics std var 	Map pose. Shape space. Maps set Maps = Shapes \times SE(3). Standard deviation Variance
<pre>\mpose \mshapesp \mapsp common/statistics \stddev \var \ex</pre>	$m{p}$ Shapes Maps $m{Misc\ statistics}$ std var $m{\mathbb{E}}$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance
<pre>\mpose \mshapesp \mapsp common/statistics \stddev \var \ex \corr</pre>	$m{p}$ Shapes Maps $m{Misc\ statistics}$ std var $m{\mathbb{E}}$ corr cov spear	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two variance
<pre>\mpose \mshapesp \mapsp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf</pre>	$m{p}$ Shapes Maps $m{Misc\ statistics}$ std var $m{\mathbb{E}}$ corr cov spear $m{\mathcal{I}}$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two variance Mutual information
<pre>\mpose \mshapesp \mapsp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr</pre>	$m{p}$ Shapes Maps $m{Misc\ statistics}$ std var $m{\mathbb{E}}$ corr cov spear $m{\mathcal{I}}$ $m{\mathcal{H}}$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy
<pre>\mpose \mshapesp \mapsp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinf</pre>	$egin{array}{c} oldsymbol{p} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information
<pre>\mpose \mshapesp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinf \varinfn</pre>	$m{p}$ Shapes Maps $m{Misc\ statistics}$ std var $m{\mathbb{E}}$ corr cov spear $m{\mathcal{I}}$ $m{\mathcal{H}}$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information Normalized variation of information
<pre>\mpose \mshapesp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinfn </pre>	$egin{array}{c} oldsymbol{p} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information Normalized variation of information Pushed forward notation
<pre>\mpose \mshapesp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinf \varinfn</pre>	$egin{array}{c} oldsymbol{p} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information Normalized variation of information
<pre>\mpose \mshapesp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinfn </pre>	$egin{array}{c} oldsymbol{p} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information Normalized variation of information Pushed forward notation Distributed as
<pre>\mpose \mshapesp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinf \varinfn \distributedAs</pre>	$egin{array}{c} oldsymbol{p} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information Normalized variation of information Pushed forward notation Distributed as Order (or rank) of the elements of a ve
<pre>\mpose \mshapesp \mapsp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinf \varinfn \distributedAs common/statistics/sorting</pre>	$m{p}$ Shapes Maps $m{Misc\ statistics}$ std var $m{\mathbb{E}}$ corr cov spear $m{\mathcal{I}}$ $m{\mathcal{H}}$ $m{\mathcal{V}}$ $m{\mathcal{V}}_1$ \sim Sorting vectors	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information Normalized variation of information Pushed forward notation Distributed as
<pre>\mpose \mshapesp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinf \varinfn \distributedAs common/statistics/sorting \order</pre>	$egin{array}{c} oldsymbol{p} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two vari Mutual information Entropy Variation of information Normalized variation of information Pushed forward notation Distributed as Order (or rank) of the elements of a ve
<pre>\mpose \mshapesp common/statistics \stddev \var \ex \corr \cov \spearcorr \mutualinf \entr \varinf \varinfn \distributedAs common/statistics/sorting \order \sorted</pre>	$egin{array}{c} oldsymbol{p} & Shapes & Maps & & & \\ \hline Misc statistics & & & \\ std & & & \\ var & & & \\ \mathbb{E} & & & \\ corr & & & \\ cov & & & \\ spear & & & \\ \mathcal{I} & & & & \\ \mathcal{H} & & \mathcal{V} & & \\ \mathcal{V}_1 & & & & \\ & & & & \\ \hline Sorting vectors & \\ order & & \\ sorted & & \\ \hline \end{array}$	Map pose. Shape space. Maps set Maps = Shapes × SE(3). Standard deviation Variance Expected value covariance Spearman correlation between two var Mutual information Entropy Variation of information Normalized variation of information Pushed forward notation Distributed as Order (or rank) of the elements of a vertical space.

CTI	\weaksortedSeq	weaksortedSeq	
DTI	common/systems	$Dynamical\ systems$	
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