

bootstrapping

| bootstrapping/agents | <i>Agents and tasks</i> | |
|----------------------|--|---|
| \agSp | Agents | |
| \agSpYU | Agents($\mathcal{Y}; \mathcal{U}$) | All agents with given formats. |
| \agA | \mathcal{A} | An agent |
| \agExp | expl | Agent's exploration phase |
| \agAct | act | Agent's action phase |
| \agAexp | expl $_{\mathcal{A}}$ | Exploration phase for agent \mathcal{A} . |
| \agAact | act $_{\mathcal{A}}$ | Action phase for agent \mathcal{A} . |
| \agAwtor | WtoR $_{\mathcal{A}}$ | Map from the world to the result for the agent \mathcal{A} . |
| \agAwtoB | WtoB $_{\mathcal{A}}$ | |
| \agAintermediate | intermediate $_{\mathcal{A}}$ | |
| \agSucAG | success $_{\mathcal{A}}^{\mathcal{G}}$ | Success set for the agent \mathcal{A} and goal \mathcal{G} . |
| \agRep | \mathbf{m} | Agent representation |
| \agRepSp | \mathcal{M} | Agent's model space |
| \agNuis | $G_{\mathcal{A}}$ | |
| \agNuisComp | $G_{\mathcal{A}}^{\perp}$ | Complement of $G_{\mathcal{A}}$. |
| \agNuisObs | $G_{\mathcal{A}}^{\mathcal{Y}}$ | |
| \agNuisCmd | $G_{\mathcal{A}}^{\mathcal{U}}$ | |
| \agbbClass | $C_{\mathcal{A}}$ | |
| \agbbClCore | $C_{\mathcal{A}}^0$ | |
| \agGoal | \mathcal{G} | The agent's goal (a subset of $\text{StocProcesses}(\mathcal{Y} \times \mathcal{U})$). |

articles

| articles/bds | <i>BDS report</i> | |
|--------------|-------------------|---------------------------------|
| \BDSnk | BDS($n; k$) | |
| \bgBDSfamily | BDS | Family of BDS sensors |
| \bds | BDS | Bilinear dynamics system |
| \BDS | BDS | |
| \omsum{...} | | omitted sum |
| \TT | T | Learned tensor |
| \TTe | T | ? |
| \TP | P | |
| \TPe | P | |
| \TU | U | Learned tensor |
| \TUE | U | Learned tensor |
| \TM | M | Bilinear tensor in BDS dynamics |
| \TMe | M | Bilinear tensor in BDS dynamics |
| \TN | N | Bilinear tensor in BDS dynamics |
| \TNe | N | Bilinear tensor in BDS dynamics |
| \Tcov | P | Covariance of \mathbf{y} . |
| \Tcove | P | Covariance of \mathbf{y} . |
| \Tucov | Q | Covariance of \mathbf{y} . |
| \Tucove | Q | Covariance of \mathbf{y} . |
| \discInt | T | Discretization interval |
| \nearavg | $\bar{\mu}$ | Average nearness |

articles/bgds

BGDS report

| | | |
|--|-------------------------------|---|
| \bgds | BGDS | Bilinear gradient dynamics system |
| \BGDS | BGDS | |
| \bgCmd | \mathbf{u} | commands |
| \bgCmdH | \mathbf{u}^T | commands history |
| \bgCmdSp | \mathcal{U} | commands space |
| \bgWorld | \mathcal{W} | World |
| \bgWorldSp | \mathcal{W} | World space |
| $\mathcal{W} \in \mathcal{D}(\mathcal{T}, \mathcal{U}, \mathcal{Y})$ | | |
| $\$ \backslash \text{bgWorld} \text{ \textit{in} } \backslash \text{bgRSSp}(\backslash \text{bgTime}, \backslash \text{bgCmdSp}, \backslash \text{bgObsSp})$ | | |
| \bgAgent | agent | Agent |
| \bgAgentEx | learn | Agent exploration |
| \bgAgentAc | act | Agent action |
| \bgAgentRep | \mathbf{r} | Agent representation |
| \bgAgentRepSp | \mathcal{R} | Agent representation space |
| \bgAgentSp | Agents | Agent action |
| \bgCmdTr | \mathbf{g} | Transformation of the commands |
| \bgCmdTrSp | G^u | |
| \bgObsTr | \mathbf{h} | Transformation of the observations |
| \bgObsTrSp | G^y | |
| \bgSamplingGroup | Sampling | Groups of sampling operations |
| \bgCalibration | Calib | Calibration operation |
| \bgBDSagent | A_{BDS} | The BDS agent |
| \bgBGDSagent | A_{BGDS} | The BGDS agent |
| \bgPopCode | pop | Popoulation code |
| \bgRankCode | rankcode | Rank code |
| \bgRangeFamily | RF | Family of range-finders models |
| \bgCmdConstraints | $\Omega_{\mathbf{u}}$ | |
| \bgPopK | ψ | |
| articles/bgds/old | <i>BGDS report</i> | |
| \state | \mathbf{x} | Generic underlying state. |
| \detecte | d | Detector |
| \submean{\dots} | | Quantity with mean normalized. |
| \dist | σ | Distance to obstacle |
| \distn | σ^* | Distance to obstacle, mean normalized. |
| \rfnl | β | Nonlinear function in range-finder tensors. |
| \near | μ | Nearness |
| \lum | y | Luminance |
| \lumn | y^* | Luminance, mean normalized |
| \sptran | ℓ | Sensor pose (translation) |
| \sprot | ℓ_θ | Sensor pose (rotation) |
| \slvel | \mathbf{v}^s | Sensor linear velocity (when off axis) |
| \savel | $\boldsymbol{\omega}^s$ | Sensor angular velocity (when off axis) |
| \TX | \mathbf{X} | Generic metric |
| \TXe | X | Generic metric |
| \OS | S | $S = s \times \nabla$ |
| \convf | f_* | Indicates the convolution with a kernel f . |
| \my | m | Metric on the tangent space of $y(s)$. |
| \ip{\dots} | | |
| \bgBGDSfamily | BGDS | Family of BGDS sensors |
| \BGDSsk | $\text{BGDS}(\mathcal{S}; k)$ | |

| | | |
|---------------------------------|------------------------------------|---|
| \focal | F | Pinhole camera focal length. |
| \traindist | p_T | Training distribution. |
| \trainsym | $\text{Sym}(p_T)$ | Symmetry group of p_T . |
| articles/bgds/logical | <i>Gradient dynamics</i> | |
| \obsfsp | \mathcal{Z} | Observation logical space |
| \obsf | \mathbf{z} | Observations in logical space |
| \obsle | z | Observation logical space element |
| \xtos | φ | Mapping between \mathcal{S} and \mathcal{Z} . |
| \jac | \mathbf{J} | Jacobian of φ |
| \jace | J | An element of the Jacobian of φ . |
| \mz | μ | Metric on the tangent space of $z(x)$. |
| \mmu | M | Metric for the commands u . |
| articles/bgds/logical/grads | <i>Gradient dynamics</i> | |
| \Tzgd | \mathbf{L} | \mathbf{z} gradient dynamics |
| \Tzgde | L | \mathbf{z} gradient dynamics (element) |
| \Tzgl | \mathbf{M} | \mathbf{z} gradient learned tensor |
| \Tzgle | M | \mathbf{z} gradient learned tensor (element) |
| \Tzgcov | \mathbf{S} | \mathbf{z} gradient covariance |
| \Tzgcove | S | \mathbf{z} gradient covariance (element) |
| \Tzad | \mathbf{E} | Affine part of dynamics. |
| \Tzade | E | Affine part of dynamics (element) |
| \Tzal | \mathbf{F} | Learned affine part of dynamics. |
| \Tzale | F | Learned affine part of dynamics (element) |
| articles/bgds/tensors | <i>BGDS report</i> | |
| \Tygd | \mathbf{G} | \mathbf{y} gradient dynamics |
| \Tygde | G | \mathbf{y} gradient dynamics (element) |
| \Tygl | \mathbf{H} | \mathbf{y} gradient learned tensor |
| \Tygle | H | \mathbf{y} gradient learned tensor (element) |
| \Tygcov | \mathbf{R} | \mathbf{y} gradient covariance |
| \Tygcove | R | \mathbf{y} gradient covariance (element) |
| \Tyad | \mathbf{B} | Affine part of dynamics. |
| \Tyade | B | Affine part of dynamics (element) |
| \Tyal | \mathbf{C} | Learned affine part of dynamics. |
| \Tyale | C | Learned affine part of dynamics (element) |
| articles/bgds/models/deprecated | <i>Definition of random models</i> | |
| \bgTime | \mathbb{T} | Time axis |
| \bgRS | \mathbf{D} | Random model |
| \bgRSSp | \mathcal{D} | All models |
| \bgRSinput | \mathbf{a} | Input signal |
| \bgRSinputSp | \mathcal{A} | |
| \bgRSinputH | \mathbf{a}^T | History of input signal |
| \bgRSoutput | \mathbf{b} | |
| \bgRSoutputH | \mathbf{b}^T | History of output signal |
| \bgRSoutputSp | \mathcal{B} | |
| \bgRSinputTr | \mathbf{g} | |
| \bgRSinputTrSp | $G^{\mathcal{A}}$ | |
| \bgRSoutputTr | \mathbf{h} | |

| | | |
|------------------|---------------------------|---|
| \bgRSooutputTrSp | $G^{\mathcal{B}}$ | |
| \bgObs | \mathbf{y} | observations |
| \bgObsH | \mathbf{y}^{T} | observations history |
| \bgObsSp | \mathcal{Y} | observation space |
| articles/camera | <i>Camera paper</i> | |
| \rank | order | |
| \place | place | |
| \ff | f | Distance to similarity function |
| \Sany | \mathcal{M} | Generic hypersphere |
| \targetSp | \mathcal{M} | Target manifold |
| \Ssubset | M | A subset of \mathcal{M} XXX |
| \infr | infr | Informative radius |
| \ffr | $\text{infr}(f)$ | 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_{pr} | Procrustes score |
| \isoError | e_{iso} | |
| \symError | e_{sym} | |
| \relError | e_r | |
| \scaledRelError | e_{sr} | |
| \angcorr | ρ_{θ} | |
| \spearperf | ρ_{sp} | Spearman performance measure |
| \spearperfn | ρ_{sp}^* | Normalized Spearman performance measure |
| \dirset | \mathcal{S} | Set of directions |
| \dirmat | \mathbf{S} | Directions stacked in a matrix |
| \matX | \mathbf{X} | |
| \matI | \mathbf{I} | |
| \arot | \mathbf{X} | |
| \cosmat | \mathbf{C} | |
| \cosmatij | C_{ij} | |
| \distmat | \mathbf{D} | |
| \distmatij | D_{ij} | |
| \simmat | \mathbf{Y} | Similarity matrix |
| \simmatij | Y_{ij} | |
| \simmatii | Y_{ii} | |
| \simmatkl | Y_{kl} | |
| \algorparam | γ | |
| \shannon | H | |
| \fov | FOV | field of view |
| \SKalgo | SK | Shepard-Kruscall algorithm |
| \SBSEw | $SKv + w$ | An extension to the SK algorithm |
| \SBSE | SKv | An extension to the SK algorithm (without warp) |
| articles/dds | <i>DDS report</i> | |
| \ddsres | ρ | Resolution of the sensor in a DDS. |
| \ddsarea | $ \mathcal{S} $ | Area of the manifold \mathcal{S} . |
| \ddsbound | d_{max} | Bound on the maximum diffeomorphism in a DDS. |
| \DDS | DDS | |

| | | |
|----------------------------|--|--|
| <code>\dds</code> | DDS | |
| <code>\ddsl</code> | DDSL | |
| <code>\DDSsu</code> | $\text{DDS}(\mathcal{S}; \mathcal{U})$ | |
| <code>\DDSLsvu</code> | $\text{DDSL}(\mathcal{S}, \mathcal{V}; \mathcal{U})$ | |
| <code>\bgDDSfamily</code> | DDS | |
| <code>\bgDDSLfamily</code> | DDSL | |
| <code>\diffeoURL</code> | ??? | Model |
| <code>\cmdAlphabet</code> | \mathcal{U} | |
| <code>\ncmdwords</code> | $ \mathcal{U} $ | Number of commands words. |
| <code>\obsspD</code> | $d^{\mathcal{S}}$ | Metric on \mathcal{S} . |
| <code>\diffId</code> | $\text{Id}_{\mathcal{S}}$ | Identity diffeomorphisms. |
| <code>\diffU</code> | Γ | Uncertainty of estimated diffeomorphism. |
| <code>\diffDist</code> | d^{Diff} | Distance between two diffeomorphism. |
| <code>\cmdDist</code> | \mathcal{D}_{cmd} | Distance between two commands. |
| <code>\cmdADist</code> | \mathcal{A}_{cmd} | Anti-distance between two commands. |
| <code>\images</code> | $\mathbb{F}(\mathcal{S})$ | |
| <code>\ddsfov</code> | \mathcal{V} | Field of view for DDS |

`articles/dptr1` *Technical report for diffeoplanning*

| | | |
|------------------------------------|-----------------------------|-------------------------|
| <code>articles/dptr1/spaces</code> | <i>spaces</i> | |
| <code>\SetImages</code> | Im | |
| <code>\SetUImages</code> | UIm | |
| <code>\genericdist\{...\}</code> | | |
| <code>\genericudist\{...\}</code> | | |
| <code>\obsstart</code> | $\mathbf{y}_{\text{start}}$ | |
| <code>\obsgoal</code> | \mathbf{y}_{goal} | |
| <code>\SetPlans</code> | Plans | |
| <code>\planSp</code> | Plans | |
| <code>\redplans</code> | RedPlans | reduced plans |
| <code>\plan</code> | p | a generic plan |
| <code>\plang</code> | p_{\circ} | true plan |
| <code>\planf</code> | p^{\star} | The solution found |
| <code>\zeroplan</code> | \emptyset | |
| <code>\obsu</code> | \mathbf{z} | Scalar uncertainty |
| <code>\obsue</code> | z | Scalar uncertainty |
| <code>\sarea</code> | A | area around pixel s |
| <code>\dd</code> | φ | Generic diffeomorphisms |
| <code>\dde</code> | φ | Generic diffeomorphisms |
| <code>\ddu</code> | γ | its uncertain |
| <code>\ddue</code> | γ | its uncertain |
| <code>\udiffSp</code> | UDiff | |

`articles/dptr1/structure` *Diffeo structure*

| | |
|-------------------------|----------------|
| <code>\dscommute</code> | commute |
| <code>\dsinverse</code> | inverse |
| <code>\dssame</code> | same |
| <code>\dsvoid</code> | void |
| <code>\S0two</code> | $\text{SO}(2)$ |

`articles/dptr1/simplification` *plan reduce*

| | | |
|---------------------------------------|--------------------------------------|------------------|
| <code>\plantodiff</code> | <code>p.to.d</code> | |
| <code>\ptod</code> | <code>p.to.d</code> | |
| <code>\pd</code> | <code>p.to.d</code> | |
| <code>\planreduce</code> | <code>PlanReduce</code> | |
| <code>\noutoforder</code> | <code>noutoforder</code> | TODO |
| <code>articles/dptr1/distances</code> | <i>Distances</i> | |
| <code>\dDiffLone</code> | $d_{L_1}^{\text{Diff}(S)}$ | |
| <code>\dUDiffLone</code> | $\frac{1}{d_{L_1}^{\text{Diff}(S)}}$ | |
| <code>\dobsps</code> | d^{S_1} | |
| <code>\dImL{\dots}</code> | | |
| <code>\dImLone</code> | $d_{L_1}^{\text{Im}}$ | |
| <code>\dImLtwo</code> | $d_{L_2}^{\text{Im}}$ | |
| <code>\dImN{\dots}</code> | | |
| <code>\dImD{\dots}</code> | | |
| <code>\cmdOrd</code> | \prec | |
| <code>\algoname{\dots}</code> | | |
| <code>\gnbc</code> | GNB | |
| <code>\bnbc</code> | BNB | |
| <code>\bngc</code> | BNG | |
| <code>\bntc</code> | BNT | |
| <code>\gebc</code> | GEB | |
| <code>\bebc</code> | BEB | |
| <code>\begc</code> | BEG | |
| <code>\betc</code> | BET | |
| <code>\betcb</code> | BET _c | |
| <code>\plansarea</code> | P_{near} | |
| <code>\algocover</code> | cover | |
| <code>\algoplanreduce</code> | planreduce | |
| <code>\algobidirectional</code> | bidirectional-search | |
| <code>\dubinsys</code> | <i>Dubin's car</i> | |
| <code>\orbitsys</code> | <i>Orbitcamera</i> | |
| <code>\markit{\dots}</code> | | |
| <code>\markA</code> | \dagger | |
| <code>\markB</code> | \ddagger | |
| <code>\markC</code> | \S | |
| <code>\distthres</code> | c | |
| <code>\btrue</code> | true | |
| <code>\bfalse</code> | false | |
| <code>\botherwise</code> | otherwise | |
| <code>\cmdleft</code> | $\boldsymbol{u}_{\text{left}}$ | |
| <code>\cmdright</code> | $\boldsymbol{u}_{\text{right}}$ | |
| <code>\cmdup</code> | $\boldsymbol{u}_{\text{top}}$ | |
| <code>\cmddown</code> | $\boldsymbol{u}_{\text{down}}$ | |
| <code>\imvis</code> | vis | Visibility |
| <code>\minvis</code> | v_0 | |
| <code>\maxdis</code> | d_g | goal threshold |
| <code>\impred</code> | pred | Image prediction |
| <code>\plA</code> | $RLrl$ | |

| | | |
|---------------------------------|---|--|
| articles/estgroups | <i>Estimation with symmetries</i> | |
| articles/estgroups/state | <i>State</i> | |
| \esSt | \mathbf{x} | State |
| \esStDim | n | Dimension of state space |
| \esStSp | \mathcal{X} | State space |
| \esStDist | $\mu_{\mathbf{x}}^{\mathcal{X}}$ | Prior for state |
| articles/estgroups/observations | <i>Observations</i> | |
| \esObs | \mathbf{y} | Observations |
| \esObsDim | m | Observations dimensions |
| \esObsSp | \mathcal{Y} | Observations space |
| \esObsMap | h | Observation map |
| | | $\mathbf{y} = \mathbf{n}h(\mathbf{x})$ |
| | | $\$ \backslash \text{esObs} = \backslash \text{esNuis } \backslash \text{esObsMap}(\backslash \text{esSt}) \$$ |
| articles/estgroups/nuisances | <i>Nuisances</i> | |
| \esNuis | \mathbf{n} | Nuisance |
| \esNuisSp | \mathbf{N} | Nuisance group |
| \esNuisDist | $\mu_{\mathbf{n}}^{\mathbf{N}}$ | Nuisance distribution |
| articles/estgroups/estimators | <i>Estimators, risks and performances</i> | |
| \esEst | m | Estimator |
| \esEstSp | \mathcal{M} | Estimator set |
| \esEstSpOpt | \mathcal{M}^* | Optimal subset of estimators |
| \esRisk | e | Risk function |
| \esRiskSp | \mathcal{E} | Risk space |
| \esRiskDist{\dots} | | Risk distribution for given estimator |
| \esRiskDistPO | \preceq | Partial order defining preference on distributions |
| \esProb | \mathcal{P} | Estimation problem |
| articles/estgroups/symmetries | <i>Symmetries in the problem</i> | |
| \esStAb | α | Abstract state |
| \esStAbSp | \mathcal{A} | Abstract space |
| \esRep | φ | Representation |
| | | $\varphi : \mathbf{x} \mapsto \alpha.$ |
| | | $\$ \backslash \text{esRep} : \backslash \text{esSt } \backslash \text{mapsto } \backslash \text{esStAb} \$.$ |
| \esStSym | A | Group of symmetries of the state |
| \esObsSym | B | Group of symmetries of the observation |
| \esRiskSym | C | Group of symmetries of the risk function |
| \esPOSym | D | Group of symmetries acting on the partial order |
| \esProbSym | \mathcal{S} | Tuple of symmetries |
| articles/groupspectral | <i>Group spectral properties</i> | |
| \gsHom | HomMaps | Induced homomorphisms. |
| \gsImage | Image | |
| \gsEqs | EqSet | Fixed points of a function. |
| \gsGA | GrAct | If the function is the action of a group. |
| \gsGAsym | \parallel | Used to specify that a function can be expressed |
| \gsSym | Sym | Set of symmetries |
| \gsStrongCan | SCan | Strong canonization operator |

| | | |
|--------------------------------|-----------------------------------|--|
| <code>\gsWeakCan</code> | WCan | Weak canonization operator |
| <code>\gsEquiCan</code> | BCan | Bold canonization operator |
| <code>\gsEndoCan</code> | MCan | Mild canonization operator |
| <code>\gsUnCan</code> | UCan | Unstructured canonization operator |
| <code>\gsNuis</code> | Sample | |
| <code>\regular</code> | regular | |
| <code>\unstr</code> | \sim | Unstructured symbol. |
| <code>\jokFunc</code> | \star | Joker function |
| <code>\zerFunc</code> | 0 | Zero function |
| articles/groupspectral/defs | <i>Group spectral properties</i> | |
| <code>\gsdContravariant</code> | $\xrightarrow{-1}$ | Contravariance |
| <code>\gsdInvariant</code> | $\xrightarrow{0}$ | Invariance |
| <code>\gsdEquivariant</code> | $\xrightarrow{\text{Id}}$ | Equivariance |
| <code>\gsdIntroduces</code> | $\xrightarrow{\star}$ | Nuisance introduced |
| <code>\gsdUnstructured</code> | $\xrightarrow{\sim}$ | Unstructured result |
| articles/invariances | <i>Invariances</i> | |
| <code>\rndual{\dots}</code> | | Dual of a representation nuisance |
| articles/soattotheory | <i>Symbols used by Soatto</i> | |
| <code>\scene</code> | ξ | scene |
| <code>\representation</code> | $\hat{\xi}$ | representation |
| <code>\minrep</code> | $\hat{\xi}^{\vee}$ | minimal representation |
| <code>\feature</code> | ϕ | feature |
| <code>\maxinv</code> | ϕ^{\wedge} | maximal invariant feature |
| <code>\suffstat</code> | ϕ^{\vee} | maximal invariant feature |
| <code>\image</code> | \mathcal{I} | image |
| <code>\addnoise</code> | n | additive noise |
| <code>\imageform</code> | h | image formation function |
| <code>\groupnuis</code> | g | nuisance which have the structure of a group |
| <code>\othernuis</code> | ν | other non-invertible nuisance |
| <code>\lightfield</code> | \mathcal{L} | all possible images generated by a scene |
| <code>\complex</code> | H | Complexity measure |
| <code>\actinfo</code> | \mathcal{H} | Actionable information |
| <code>\covdet</code> | ψ | Covariant detector |
| articles/soattotheory/mseerep | <i>msee report</i> | |
| <code>\nuddisc{\dots}</code> | | Domain sampling operator (subset) |
| <code>\nusample{\dots}</code> | | Domain sampling operator (subset) |
| <code>\nuvdisc{\dots}</code> | | Value Discretization operator (subset) |
| <code>\nusmooth{\dots}</code> | | Smoothing operator (kernel) |
| <code>\nucens{\dots}</code> | | Censoring operator (field of view) |
| <code>\nuoccl{\dots}</code> | | Occlusions |
| <code>\imform</code> | I | |
| <code>\contrast</code> | f | |
| articles/thesis | <i>Special symbols for thesis</i> | |
| <code>\labelrefinement</code> | ref | Indicates a refinement |
| <code>\pchomeoR</code> | PieceHomeo(\mathbb{R}) | |

| | | |
|-----------------------------------|---|--|
| <code>\dianode{...}</code> | | used in properties1.dot |
| <code>\dianodem{...}</code> | | |
| <code>\bitZ</code> | \square | |
| <code>\bit0</code> | \boxdot | |
| <code>\infbinstrings</code> | $\{\square, \boxdot\}^{\mathbb{N}}$ | Set of infinite binary strings |
| <code>\chineseClose</code> | (nosummary) | The Chinese character corresponding to “close” |
| <code>\twosignals</code> | y^i, y^j | |
| <code>\twosignalsa</code> | y^i | |
| <code>\twosignalsb</code> | y^j | |
| <code>\twosignalscolon</code> | $y^i; y^j$ | |
| <code>\semrelorder</code> | m | Order of a generic semantic relations |
| <code>\infininit</code> | d | Infinitesimal |
| <code>\genericsemrel</code> | \mathcal{R} | A generic semantic relation. |
| <code>\gensemrelsym</code> | $\text{Sym}(\mathcal{R})$ | Symmetries of the semantic relation |
| <code>\genericcsimilarity</code> | R | A generic similarity measure. |
| <code>\obsecdf</code> | c | CDF of one sensel |
| <code>\cmdreverse</code> | ρ | The map from a command to its reverse. |
| <code>\cmdopt</code> | \mathbf{u}^* | The optimal command |
| <code>\cmdnop</code> | \mathbf{u}^{nop} | Command corresponding to “resting”. |
| <code>\rew</code> | R | Reward function |
| <code>\placeneig</code> | Neighbors | |
| <code>\genericrel</code> | \sim | Generic relation |
| <code>\notgenericrel</code> | $\not\sim$ | |
| <hr/> articles/thesis/longexample | | <i>Long example</i> |
| <code>\CalibA</code> | CalibA | |
| <code>\CalibB</code> | CalibB | |
| <code>\Smoothkernel</code> | k | |
| <code>\Smooth</code> | Smooth_k | |
| <code>\BGDSAg</code> | BGDSagent | |
| <code>\BGDSAgS</code> | BGDSagentS | |
| <code>\DImagesU</code> | $\mathcal{D}(\text{Images}(S); \mathcal{U})$ | |
| <code>\DImagesR</code> | $\mathcal{D}(\text{Images}(S); \mathbb{R}^{n_u})$ | |
| <code>\ABehavior</code> | <i>behavior</i> | |
| <code>\DImagesSphU</code> | $\mathcal{D}(\text{Images}(\mathbb{S}^2); \mathcal{U})$ | |
| <code>\hobs</code> | \mathbf{x} | |
| <code>\hobse</code> | x | |
| <code>\bound</code> | M | |
| <hr/> common | | <i>Common symbols to all papers</i> |
| <hr/> common/abbreviations | | <i>Other abbreviations</i> |
| <code>\setA</code> | \mathcal{A} | |
| <code>\setB</code> | \mathcal{B} | |
| <code>\setC</code> | \mathcal{C} | |
| <code>\setU</code> | \mathcal{U} | |
| <code>\setM</code> | \mathcal{M} | |
| <code>\setY</code> | \mathcal{Y} | |
| <code>\setX</code> | \mathcal{X} | |
| <code>\setZ</code> | \mathcal{Z} | |
| <code>\setS</code> | \mathcal{S} | |

| | | |
|--|-----------------|---|
| <code>\grG</code> | G | |
| <code>\grH</code> | H | |
| <code>\grK</code> | K | |
| <code>\grN</code> | N | |
| <hr/> | | |
| common/abbreviations/invariances/abbreviations | | |
| <code>\sqa</code> | <i>a</i> | |
| <code>\sqae</code> | <i>a</i> | |
| <code>\sqb</code> | <i>b</i> | |
| <code>\sqbe</code> | <i>b</i> | |
| <code>\sqc</code> | <i>c</i> | |
| <code>\sqce</code> | <i>c</i> | |
| <hr/> | | |
| common/acronyms | | |
| <hr/> | | |
| common/algebra | | |
| <hr/> | | |
| <code>\ones</code> | 1 | |
| <code>\idMat</code> | I | Identity matrix |
| <code>\matTrace</code> | Tr | Trace of a matrix. |
| <code>\angleFun</code> | \angle | Angle function |
| <code>\flatten</code> | vec | Matrix-to-vector rearrangement. |
| <hr/> | | |
| common/basic | | |
| <hr/> | | |
| <code>\setfun</code> | \Rightarrow | Symbol for set functions (one-to-many) |
| <code>\algfield</code> | field | Field. <code>field($\mathcal{X}, +, \times$)</code> is an algebraic field. <code>$\backslash\mathrm{algfield}(\backslash\mathrm{aset}\{X\}, +, \times)$</code> is an algebraic field. |
| <code>\wellorder</code> | wellorder | A well ordered set. <code>wellorder(\mathcal{X}, \leq)</code> is a well-ordered set. <code>$\backslash\mathrm{wellorder}(\backslash\mathrm{aset}\{X\}, \leq)$</code> is a well-ordered set. |
| <code>\orderedfield</code> | orderedfield | A well ordered field. <code>orderedfield($\mathcal{X}, +, \times, \leq$)</code> is a well-ordered field. <code>$\backslash\mathrm{orderedfield}(\backslash\mathrm{aset}\{X\}, +, \times, \leq)$</code> is a well-ordered field. |
| <code>\powerset</code> | powerset | Power set of a space |
| <code>\supp</code> | supp | Support of a set |
| <code>\idFunc</code> | Id | The identity function |
| <code>\invFunc</code> | \cdot^{-1} | Inverse function |
| <code>\funcComp</code> | \circ | Function composition |
| <code>\emptysequence</code> | \emptyset | Empty sequence |
| <code>\allFuncs</code> | Functions | All maps from a space to the other |
| <code>\D</code> | d | Used for integrals |
| <code>\sign</code> | sgn | Sign function |
| <hr/> | | |
| common/sequences | | |
| <hr/> | | |
| <code>\sequences</code> | Sequences | Set of sequences |
| <code>\contsequences</code> | ContSequences | Set of continuous sequences |
| <code>\Aut</code> | Aut | Automorphism group |
| <code>\contFuncs</code> | Continuous | Continuous functions on some metric space |

| | | |
|--|---------------------------|---|
| | | Continuous(\mathcal{A}) are all continuous functions on \mathcal{A} $\text{\textbackslash contFuncs}(\text{\textbackslash setA})$ are all continuous functions on $\text{\textbackslash setA}$. |
| $\text{\textbackslash differFuncs}$ | Differentiable | Differentiable functions |
| $\text{\textbackslash partitions}$ | partitions | |
| $\text{\textbackslash mExp}$ | mexp | Matrix exponential |
| $\text{\textbackslash bigO}$ | \mathcal{O} | Big-O notation |
| $\text{\textbackslash smallo}$ | o | |
| $\text{\textbackslash metricon}\{\dots\}$ | | |
| $\text{\textbackslash definedas}$ | \triangleq | |
| $\text{\textbackslash crossprod}$ | \times | cross-product |
| $\text{\textbackslash gsDom}$ | Domain | |
| $\text{\textbackslash gsCod}$ | Codomain | |
| $\text{\textbackslash interCC}\{\dots,\dots\}$ | | |
| $\text{\textbackslash interCO}\{\dots,\dots\}$ | | |
| $\text{\textbackslash interOC}\{\dots,\dots\}$ | | |
| $\text{\textbackslash interOO}\{\dots,\dots\}$ | | |
| $\text{\textbackslash unitInterval}$ | $[0, 1]$ | |
| common/basic/logic | Logic | |
| $\text{\textbackslash logicAnd}$ | \wedge | Logic "and" |
| $\text{\textbackslash logicOr}$ | \vee | Logic "or" |
| $\text{\textbackslash logicNot}$ | \neg | Logic "not" |
| common/simplesets | Simple sets | |
| $\text{\textbackslash reals}$ | \mathbb{R} | Real numbers |
| $\text{\textbackslash natnumbers}$ | \mathbb{N} | Natural numbers |
| $\text{\textbackslash ratnumbers}$ | \mathbb{Q} | Rational numbers |
| $\text{\textbackslash hreals}$ | $*\mathbb{R}$ | Hyper-real numbers |
| $\text{\textbackslash nonNegReals}$ | \mathbb{R}^+_{\bullet} | Non negative reals |
| $\text{\textbackslash posReals}$ | \mathbb{R}^+_{\circ} | Strictly positive reals |
| $\text{\textbackslash nzReals}$ | \mathbb{R}_{\circ} | Nonzero reals |
| common/blackboxes | Black boxes | |
| $\text{\textbackslash abb}\{\dots\}$ | | A black box |
| $\text{\textbackslash bbD}$ | \mathcal{D} | |
| $\text{\textbackslash bbinv}\{\dots\}$ | | Inverse of a black box |
| $\text{\textbackslash bbli}\{\dots\}$ | | left inverse of a black box |
| $\text{\textbackslash bbri}\{\dots\}$ | | right inverse of a black box |
| $\text{\textbackslash alloutcomes}$ | AllOutcomes | |
| $\text{\textbackslash alloutputs}$ | AllOutputs | All outputs of a given system |
| $\text{\textbackslash bbDelay}$ | Δ | The one-step delay system. |
| $\text{\textbackslash vertblock}$ | \mathbf{I} | |
| $\text{\textbackslash bbAccum}$ | \mathbf{III} | Accumulator system |
| $\text{\textbackslash inLoop}$ | Loop | Closes the loop around a system |
| $\text{\textbackslash idSys}$ | IdSys | The identity system |
| $\text{\textbackslash bbSp}$ | \mathcal{D} | Set of black boxes $\mathcal{D}(\mathcal{X}; \mathcal{Y})$ are all the black boxes from \mathcal{X} to \mathcal{Y} . $\text{\textbackslash bbSp}(\text{\textbackslash setX}; \text{\textbackslash setY})$ are all the black boxes from $\text{\textbackslash setX}$ to $\text{\textbackslash setY}$. |
| $\text{\textbackslash bbFM}$ | \mathcal{D}_{fm} | Systems with finite memory |

| | | |
|----------------------------------|---|--|
| <code>\bbSpInv</code> | \mathcal{D}^* | Set of invertible systems |
| <code>\bbFMinv</code> | $\mathcal{D}_{\text{fm}}^*$ | Systems with finite memory and invertible |
| <code>\bbSpIns</code> | $\mathcal{D}_{\text{inst}}$ | Set of instantaneous systems |
| <code>\bbSpDet</code> | \mathcal{D}_{det} | Deterministic systems |
| <code>\bbSpInvIns</code> | $\mathcal{D}_{\text{inst}}^*$ | Set of invertible and instantaneous systems. |
| | | $\mathcal{D}^*(\mathcal{A})$ is a subset of $\mathcal{D}(\mathcal{A}; \mathcal{A})$ |
| | | $\mathcal{D}^*(\mathcal{A})$ is a subset of $\mathcal{D}(\mathcal{A}; \mathcal{A})$ |
| | | $\mathcal{D}^*(\mathcal{A})$ is a subset of $\mathcal{D}(\mathcal{A}; \mathcal{A})$ |
| <code>\bbSpCore</code> | \mathcal{D}° | Systems up to representation |
| <hr/> | | |
| common/blackboxes/abbreviations | | |
| <code>\bbDinv</code> | \mathcal{D}^{-1} | |
| <code>\bbDri</code> | \mathcal{D}^R | |
| <code>\bbDli</code> | \mathcal{D}^L | |
| <code>\bbE</code> | \mathcal{E} | |
| <code>\bbF</code> | \mathcal{F} | |
| <code>\bbG</code> | \mathcal{G} | |
| <code>\bbSpBA</code> | $\mathcal{D}(\mathcal{B}; \mathcal{A})$ | to write |
| <code>\bbSpAB</code> | $\mathcal{D}(\mathcal{A}; \mathcal{B})$ | to write |
| <hr/> | | |
| common/blackboxes/deprecated | | |
| <code>\bbOp</code> | \oplus | Composition operation |
| <code>\inSeries</code> | Series | Series of two systems |
| <hr/> | | |
| common/boot | | |
| <i>Bootstrapping symbols</i> | | |
| <hr/> | | |
| common/boot/obs cmd | | |
| <i>Observations and commands</i> | | |
| <code>\world</code> | \mathcal{W} | The "world", an element of $\mathcal{D}(\mathcal{Y}; \mathcal{U})$. |
| <code>\obs</code> | \mathcal{Y} | Observations vector. |
| <code>\obse</code> | y | Observations element. |
| <code>\cmd</code> | \mathcal{U} | Commands vector. |
| <code>\cmde</code> | u | Commands element. |
| <code>\nobs</code> | $n_{\mathcal{Y}}$ | Number of sensels |
| <code>\ncmd</code> | $n_{\mathcal{U}}$ | Number of actuators |
| <code>\obsSp</code> | \mathcal{Y} | Observation space |
| <code>\cmdSp</code> | \mathcal{U} | Commands space |
| <code>\cmdSph</code> | $\overline{\mathcal{U}}$ | Domain of a single actuator $\mathcal{U} = \overline{\mathcal{U}}^{n_{\mathcal{U}}}$. |
| <code>\obsSph</code> | $\overline{\mathcal{Y}}$ | Domain of a single sensel $\mathcal{Y} = \overline{\mathcal{Y}}^{n_{\mathcal{Y}}}$. |
| <code>\obsSphd</code> | $d^{\overline{\mathcal{Y}}}$ | Metric on $d^{\overline{\mathcal{Y}}}$ |
| <code>\obsSpd</code> | $d^{\mathcal{Y}}$ | Metric on $d^{\mathcal{Y}}$ |
| <hr/> | | |
| common/boot/spatialsensors | | |
| <i>Spatial sensors</i> | | |
| <code>\obssp</code> | \mathcal{S} | Observation physical space. |
| <code>\obsps</code> | \mathcal{S} | Observation physical space. |
| <code>\genimages</code> | Images | Images on physical space \mathcal{S} . |
| <code>\imps</code> | Images(\mathcal{S}) | Images on physical space \mathcal{S} . |
| <hr/> | | |
| common/boot/servo | | |
| <i>Servoing</i> | | |
| <code>\obsg</code> | $\check{\mathcal{Y}}$ | Goal observations. |
| <code>\obsge</code> | \check{y} | Goal observations (element). |
| <code>\obsgl</code> | \check{z} | Goal observations (element). |

| | | |
|--|--|--|
| <code>\obsgle</code> | \tilde{z} | Goal observations (element). |
| <code>common/boot/abbreviations</code> | <i>Abbreviations</i> | |
| <code>\bbSpYU</code> | $\mathcal{D}(\mathcal{Y}; \mathcal{U})$ | to write |
| <code>\bbSpUY</code> | $\mathcal{D}(\mathcal{U}; \mathcal{Y})$ | to write |
| <code>\bbSpInvY</code> | $\mathcal{D}^*(\mathcal{Y})$ | Representation nuisances on commands |
| <code>\bbSpInvU</code> | $\mathcal{D}^*(\mathcal{U})$ | Representation nuisances on observations |
| <code>\bbSpInvYU</code> | $\mathcal{D}^*(\mathcal{Y}; \mathcal{U})$ | Representation nuisances |
| <code>\bbSpInvUY</code> | $\mathcal{D}^*(\mathcal{U}; \mathcal{Y})$ | |
| <code>\bbSpCoreYU</code> | $\mathcal{D}^\circ(\mathcal{Y}; \mathcal{U})$ | Systems up to representation |
| <code>common/vehicles</code> | <i>The Vehicles universe</i> | |
| <code>\veEnvironments</code> | Environments | All Vehicles environments |
| <code>\veSensors</code> | Sensors | all Vehicles sensors |
| <code>\veDynamics</code> | Dynamics | all Vehicles dynamics |
| <code>\veVehicles</code> | Vehicles | all Vehicles dynamics |
| <code>\veSce</code> | S | |
| <code>\veVeh</code> | V | |
| <code>\veMov</code> | M | |
| <code>\veAdd</code> | A | |
| <code>\veJoi</code> | J | |
| <code>\vePar</code> | P | Parallel composition of sensors |
| <code>\veNcmd</code> | U | |
| <code>\veNobs</code> | Y | |
| <code>common/expressions</code> | <i>Miscellaneous expressions</i> | |
| <code>\etal</code> | <i>et al.</i> | |
| <code>\eg</code> | <i>e.g.</i> , | |
| <code>\etc</code> | <i>etc.</i> | |
| <code>\ie</code> | <i>i.e.</i> , | |
| <code>\viceversa</code> | <i>viceversa</i> | |
| <code>\vs</code> | <i>vs</i> | Versus |
| <code>\ad hoc</code> | <i>ad hoc</i> | |
| <code>\apriori</code> | <i>a priori</i> | |
| <code>common/goodformulas</code> | <i>Better formulas annotations</i> | |
| <code>\expl{...}</code> | | Explanation in formulas |
| <code>\highA{...}</code> | | Highlight something in formulas (observations) |
| <code>\highB{...}</code> | | Highlight something in formulas (commands) |
| <code>\highC{...}</code> | | both observations and commands |
| <code>common/yesorno</code> | <i>Miscellaneous functions for document formatting</i> | |
| <code>\ns</code> | | |
| <code>\tickYes</code> | ✓ | |
| <code>\tickNo</code> | 7 | |
| <code>\NA</code> | <i>n/a</i> | |
| <code>\coltickNo</code> | 7 | |
| <code>\yes</code> | ✓ | |
| <code>\no</code> | 7 | |
| <code>\onehalf</code> | $\frac{1}{2}$ | small one half |
| <code>\smPO</code> | +1 | Small plus one |

| | | |
|--|------------------------------|---|
| <code>\smMO</code> | -1 | Small minus one (e.g. in smallmatrix) |
| <code>common/incomplete</code> | <i>Incomplete symbols</i> | |
| <code>\AC{...}</code> | | Marker for sections to write |
| <code>\ac{...}</code> | | |
| <code>\towrite</code> | to write | Marker for sections to write |
| <code>\placeholder{...,...}</code> | | A placeholder |
| <code>\tocite{...}</code> | | |
| <code>\citeboh</code> | <i>[xxx]</i> | |
| <code>\xxx</code> | <i>???</i> | |
| <code>\notsure</code> | (Not sure...) | |
| <code>\dontlike</code> | (Don't like this) | |
| <code>\notformal</code> | (not formal) | |
| <code>\betterword{...}</code> | | |
| <code>\boh</code> | <i>???</i> | incomplete |
| <code>\bn</code> | | bad notation, this should change later |
| <code>\checkbadformat</code> | | incomplete |
| <code>\prooftowritesomeday</code> | | |
| <code>\myrule{...,...}</code> | | |
| <code>\unitInterval</code> | $[0, 1]$ | |
| <code>common/geometry</code> | <i>Differential geometry</i> | |
| <code>\diff</code> | Diff | Diffeomorphism Diff(\mathcal{M}) are the diffeomorphisms from \mathcal{M} to its $\text{\textbackslash diff}\langle\text{\textbackslash aset}\{M\}\rangle$ are the diffeomorphisms from $\text{\textbackslash aset}\{M\}$ to itself. |
| <code>\diffPos</code> | Diff ₊ | Orientation-preserving diffeomorphism. |
| <code>\homeoPos</code> | Homeo ₊ | Orientation-preserving homeomorphisms (of the |
| <code>\diffBounded{...}</code> | | Diffeomorphisms with bounded curvature |
| <code>\diffVol</code> | Diff _{vol} | |
| <code>\homeo</code> | Homeo | Set of all homeomorphisms |
| <code>\isometries</code> | Isom | Isometries group Isom(\mathcal{M}) are all the isometries of \mathcal{M} . $\text{\textbackslash isometries}\langle\text{\textbackslash aset}\{M\}\rangle$ are all the isometries of $\text{\textbackslash aset}\{M\}$. |
| <code>\diffFix{...}</code> | | Diffeomorphisms that fix a point |
| <code>\conformalFuncs</code> | Conformal | Conformal transformations |
| <code>common/geometry/manifolds</code> | <i>Manifolds</i> | |
| <code>\Sone</code> | \mathbb{S}^1 | Unit circle. |
| <code>\Stwo</code> | \mathbb{S}^2 | Unit sphere. |
| <code>\stwo</code> | \mathbb{S}^2 | Unit sphere |
| <code>\hypsp</code> | \mathbb{H} | |
| <code>\hypspn</code> | \mathbb{H}^n | |
| <code>common/groups</code> | <i>Group theory</i> | |
| <code>\gIdentity</code> | e | Identity of a group |
| <code>\tgroup</code> | group | Group set with operations group(G, \cdot) means G is a group under \cdot . $\text{\textbackslash tgroup}\langle\text{\textbackslash agroup}\{G\}, \text{\textbackslash cdot}\rangle$ means $\text{\textbackslash agroup}\{G\}$ is group under $\text{\textbackslash cdot}$. |

| | | |
|---|----------------------------|--|
| <code>\haar</code> | haar | Haar measure |
| | | The Haar measure on \mathcal{X} is haar^X . |
| | | The Haar measure on $\mathcal{A}(\mathcal{X})$ is $\{\text{haar}\}(\mathcal{X})$. |
| <code>common/groups/famous</code> | <i>Famous groups</i> | |
| <code>\idGroup</code> | Id | The trivial group with identity only. |
| <code>\permutations</code> | Perm | Set of permutation |
| <code>\stab{...}</code> | | Stabilizer of a set |
| <code>\functionsym{...}</code> | | Symmetries of a function |
| <code>\allsubgroups</code> | AllSubgroups | |
| <code>\comgroup{...}</code> | | Commutator sub group |
| <code>\groupJoin</code> | \vee | Group join |
| <code>\groupconj{...}</code> | | Conjugation |
| <code>\groupquotient</code> | $/$ | Group quotient |
| <code>\groupsemidir</code> | \rtimes | Semidirect product. |
| <code>\groupisom</code> | \cong | Isomorphism |
| <code>\issubgroup</code> | \leq | Subgroup relation. |
| <code>\normalsub</code> | \triangleleft | Normal subgroup relation |
| <code>\actionsymbol</code> | \cdot | Group action. |
| <code>\companionFuncs{...}</code> | | Companions functions |
| <code>\transversalFuncs{...}</code> | | Transversal functions |
| <code>common/groups/matrix</code> | <i>Matrix groups</i> | |
| <code>\orthogroup</code> | O | Orthogonal group. |
| <code>\trangroup</code> | T | Translation group |
| <code>\segroup</code> | SE | Special Euclidean group. |
| <code>\Egroup</code> | E | Euclidean group. |
| <code>\SLgroup</code> | SL | Special linear group |
| <code>\Diaggroup</code> | D | Diagonal matrices with non-zero elements. |
| <code>\PMgroup</code> | D_{\pm} | Diagonal matrices with ± 1 on the diagonal. |
| <code>\Scalegroup</code> | Sc | Multiples of the identity |
| <code>\sogroup</code> | SO | Special orthogonal group. |
| <code>\sonnegroup</code> | SO^{-} | |
| <code>\affgroup</code> | Aff | Affine group |
| <code>\affgrouppos</code> | Aff_+ | Affine group |
| <code>\GL</code> | GL | General linear group |
| <code>\GLpos</code> | GL_+ | |
| <code>\se</code> | se | Special Euclidean algebra |
| <code>\soalgebra</code> | so | |
| <code>\sealgebra</code> | se | Special Euclidean algebra |
| <code>\sothree</code> | SO(3) | Special orthogonal group (rotation matrices) |
| <code>\sethree</code> | SE(3) | Special Euclidean group |
| <code>\setwo</code> | SE(2) | Special Euclidean group |
| <code>common/groups/simple</code> | <i>Very simple groups</i> | |
| <code>\mgroup</code> | (\mathbb{R}_o, \times) | Multiplication group |
| <code>\mposgroup</code> | (\mathbb{R}_o^+, \times) | Positive multiplication group |
| <code>\mpmgroup</code> | $(\pm 1, \times)$ | +1/-1 multiplication group |
| <code>\addgroup</code> | $(\mathbb{R}, +)$ | Addition group |
| <code>common/groups/simple/abbreviations</code> | <i>Abbreviations</i> | |

| | | |
|---|------------------------------|---|
| <code>\addgroupn</code> | $(\mathbb{R}^n, +)$ | Addition group on \mathbb{R}^n |
| <code>\affone</code> | $\text{Aff}(\mathbb{R})$ | Affine group 1D |
| <code>\affonepos</code> | $\text{Aff}_+(\mathbb{R})$ | Affine group 1D |
| <code>\affn</code> | $\text{Aff}(\mathbb{R}^n)$ | Affine group in n dimensions. |
| <code>\affnpos</code> | $\text{Aff}_+(\mathbb{R}^n)$ | Affine transformations preserving orientations. |
| <hr/> | | |
| <code>common/probability</code> | <i>Probability</i> | |
| <code>\uniformdist</code> | Uniform | Uniform distribution |
| <code>\measuresupport</code> | Support | Support of a probability measure |
| <code>\processes</code> | StocProcesses | Set of stochastic processes |
| <code>\conditional</code> | Conditional | Conditional distribution |
| | | Conditional($\mathcal{B}; \mathcal{A}$) is the set of conditional distributions |
| | | $\$\text{\conditional\setB;\setA}\$$ is the set of conditional distributions |
| <code>\finaldist</code> | Final | Stationary distribution of a stochastic process. |
| <code>\measureSp</code> | meas | Measure space. |
| | | meas(\mathcal{X}, Σ, μ) is a measure space. |
| | | $\$\text{\measureSp\aset{X},\Sigma,\mu}\$$ is a measure space. |
| <code>\probSp</code> | prob | Probability space. |
| | | prob(\mathcal{X}, Σ, μ) is a probability space. |
| | | $\$\text{\probSp\aset{X},\Sigma,\mu}\$$ is a probability space. |
| <code>\measures</code> | ProbMeasures | Set of probability measures on a set. |
| | | Try $\mu^x \in \text{ProbMeasures}(\mathcal{X})$ |
| | | Try $\$\mu\{\aset{X}\} \in \text{measures\aset{X}}\$$ |
| <code>\dirac</code> | δ | |
| <hr/> | | |
| <code>common/robotics</code> | <i>Robotics</i> | |
| <code>\obsip</code> | m | Inner product bilinear form. |
| <code>\obsosp</code> | \mathcal{O} | Observation output space. |
| <code>\dummySensel</code> | s | |
| <code>\pose</code> | \mathbf{q} | Robot pose $\mathbf{q} = (\mathbf{t}, \mathbf{R}) \in \mathcal{Q} \subset \text{SE}(3)$. |
| <code>\posesp</code> | \mathcal{Q} | Pose space, subgroup of $\text{SE}(3)$. |
| <code>\confspace</code> | \mathcal{Q} | Robot configuration space |
| <code>\pos</code> | \mathbf{t} | Position in the world frame. |
| <code>\rotm</code> | \mathbf{R} | Rotation matrix representing orientation in the |
| <code>\lvel</code> | \mathbf{v} | Linear velocity |
| <code>\levele</code> | v | Linear velocity (element) |
| <code>\avel</code> | $\boldsymbol{\omega}$ | Angular velocity (as vector) |
| <code>\avels</code> | ω | Angular velocity in 2D (scalar) |
| <code>\avelse</code> | $\hat{\boldsymbol{\omega}}$ | Angular velocity (as skew-symmetric matrix) |
| <code>\njoins</code> | n_j | Number of joints in a robot |
| <code>\attitude</code> | \mathbf{R} | |
| <code>\position</code> | \mathbf{t} | |
| <hr/> | | |
| <code>common/robotics/fieldsmapler</code> | <i>Field samplers</i> | |
| <code>\field</code> | \mathcal{F} | Field sampled by the field sensor. |
| <code>\fieldpos</code> | \mathbf{z} | Generic position in the world. |

| | | |
|----------------------------------|----------------------------|--|
| <i>common/robotics/old</i> | <i>Deprecated</i> | |
| <code>\wshape</code> | s | |
| <code>\wpose</code> | p | |
| <code>\worldsp</code> | Maps | |
| <code>\wshapesp</code> | Shapes | |
| <i>common/robotics/maps</i> | <i>New stuff</i> | |
| <code>\mshape</code> | s | Map shape. |
| <code>\mpose</code> | p | Map pose. |
| <code>\mshapesp</code> | Shapes | Shape space. |
| <code>\mapsp</code> | Maps | Maps set $\text{Maps} = \text{Shapes} \times \text{SE}(3)$. |
| <i>common/statistics</i> | <i>Misc statistics</i> | |
| <code>\stddev</code> | <code>std</code> | Standard deviation |
| <code>\var</code> | <code>var</code> | Variance |
| <code>\ex</code> | \mathbb{E} | Expected value |
| <code>\corr</code> | <code>corr</code> | |
| <code>\cov</code> | <code>cov</code> | covariance |
| <code>\spearcorr</code> | <code>spear</code> | Spearman correlation between two variables |
| <code>\mutualinf</code> | \mathcal{I} | Mutual information |
| <code>\entr</code> | \mathcal{H} | Entropy |
| <code>\varinf</code> | \mathcal{V} | Variation of information |
| <code>\varinfn</code> | \mathcal{V}_1 | Normalized variation of information |
| <code>\pushedforward{...}</code> | | Pushed forward notation |
| <code>\distributedAs</code> | \sim | Distributed as |
| <i>common/statistics/sorting</i> | <i>Sorting vectors</i> | |
| <code>\order</code> | <code>order</code> | Order (or rank) of the elements of a vector. |
| <code>\sorted</code> | <code>sorted</code> | Sorted version of a vector |
| <code>\differ</code> | <code>differ</code> | |
| <code>\sortedSeq</code> | <code>sortedSeq</code> | |
| <code>\weaksortedSeq</code> | <code>weaksortedSeq</code> | |
| <i>common/systems</i> | <i>Dynamical systems</i> | |
| <code>\CTI</code> | CTI | Continuous-time time-invariant systems. |
| <code>\DTI</code> | DTI | Discrete-time time-invariant systems. |
| <code>\DDTI</code> | DDTI | Deterministic discrete-time time-invariant systems. |
| <code>\DCTI</code> | CDTI | Deterministic continuous-time time-invariant systems. |
| <code>\DFSTI</code> | DFSTI | Discrete-time finite-state-space time-invariant systems. |
| <code>\CFSTI</code> | CFSTI | Continuous-time finite-state-space time-invariant systems. |
| <code>\DFSTIGO</code> | DFSTIGO | Discrete-time finite-state-space time-invariant systems with output. |
| <code>\CLTI</code> | CLTI | Continuous-time linear time-invariant systems. |
| <code>\CLTIG</code> | CLTIG | Continuous-time linear time-invariant systems with output. |
| <code>\DLTI</code> | DLTI | Discrete-time linear time-invariant systems. |
| <code>\DSMPLTI</code> | DSMPLTI | Discrete-time stable minimum-phase linear time-invariant systems. |
| <code>\DLTIG</code> | DLTIG | Discrete-time linear time-invariant systems with output and input delay. |
| <code>\laptrans</code> | \mathcal{L} | Laplace transform |
| <code>\impulseresp</code> | ImpulseResp | Impulse response of a system |
| <code>\transferfunc</code> | TF | Transfer function |
| <i>typography</i> | <i>Basic typography</i> | |

| | |
|------------------------------|---|
| <code>\myacronym{...}</code> | All acronyms; good for text as well as math mode |
| typography/tensors | <i>Tensors and tensor elements</i> |
| <code>\T{...}</code> | Tensor |
| <code>\Tel{...}</code> | Tensor element |
| <code>\Te{...}</code> | |
| typography/matrices | <i>Matrices and matrix elements</i> |
| <code>\M{...}</code> | A matrix |
| <code>\Mel{...}</code> | The elements of a matrix |
| typography/sets | <i>Sets</i> |
| <code>\aset{...}</code> | A set |
| <code>\agroup{...}</code> | Fonts for a set which is a group. |
| | A set \mathcal{X} , a group X , G , ... |
| | A set \mathcal{X} , a group X , G , ... |
| | <code>\dots</code> |
| <code>\aseq{...}</code> | Formatting for sequences |
| <code>\aseqe{...}</code> | Formatting for one element in a sequence |
| <code>\dummyIndices</code> | |
| typography/misc | <i>Everything else</i> |
| <code>\aword{...}</code> | How words should look like in formulas. |
| | Consider the operator <code>scale</code> , ... |
| | Consider the operator <code>\aword{scale}</code> , <code>\dots</code> |
| <code>\vmath{...}</code> | How words should appear in math mode. |