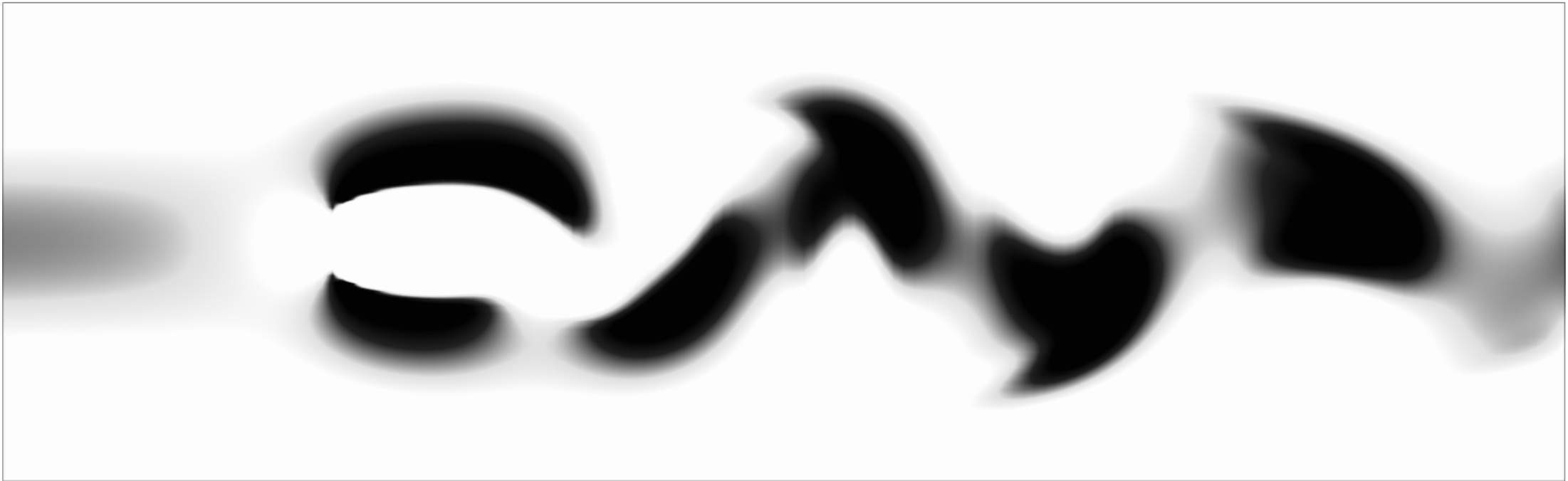
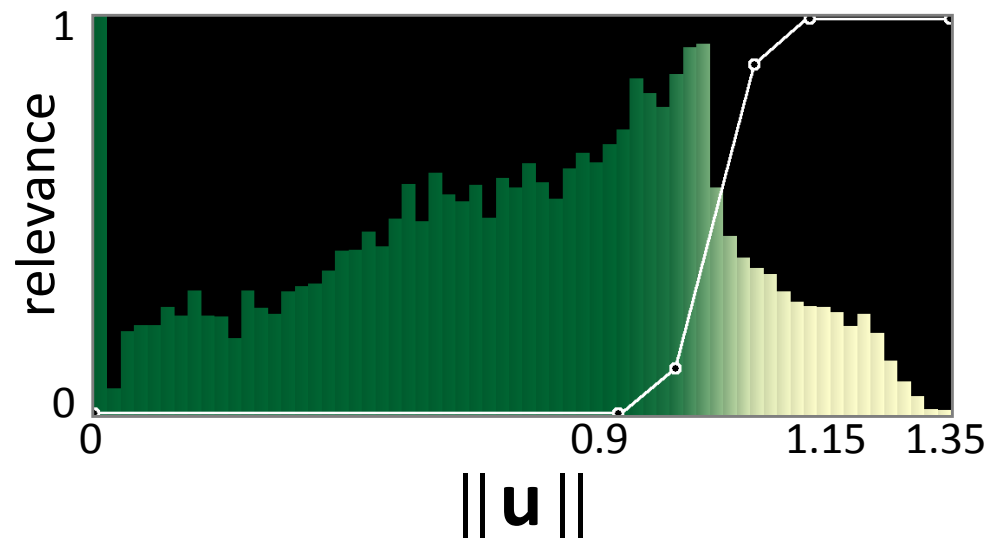


Flow around a Square Cylinder

	Velocity	Vorticity	Rate of strain
Relevance	high velocity magnitude	positive Q	high Haines & Kenwright
Coherency	c_{dot_v}	2 nd moment of Euclidean norm	c_{diff_v}
Coh. thresh.	0.06	0.1	0.16

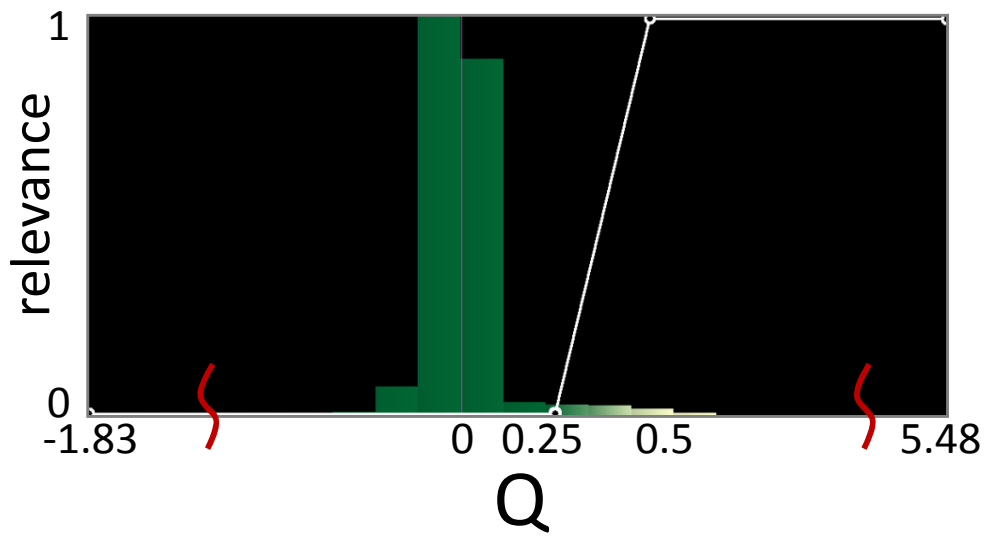
Relevance
measure for
Velocity



relevance



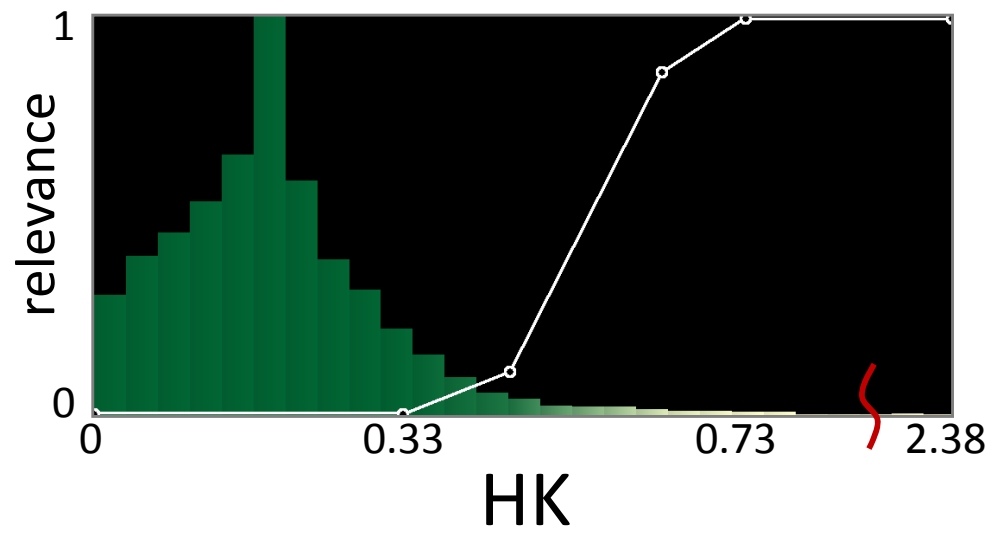
Relevance
measure for
Vorticity



relevance



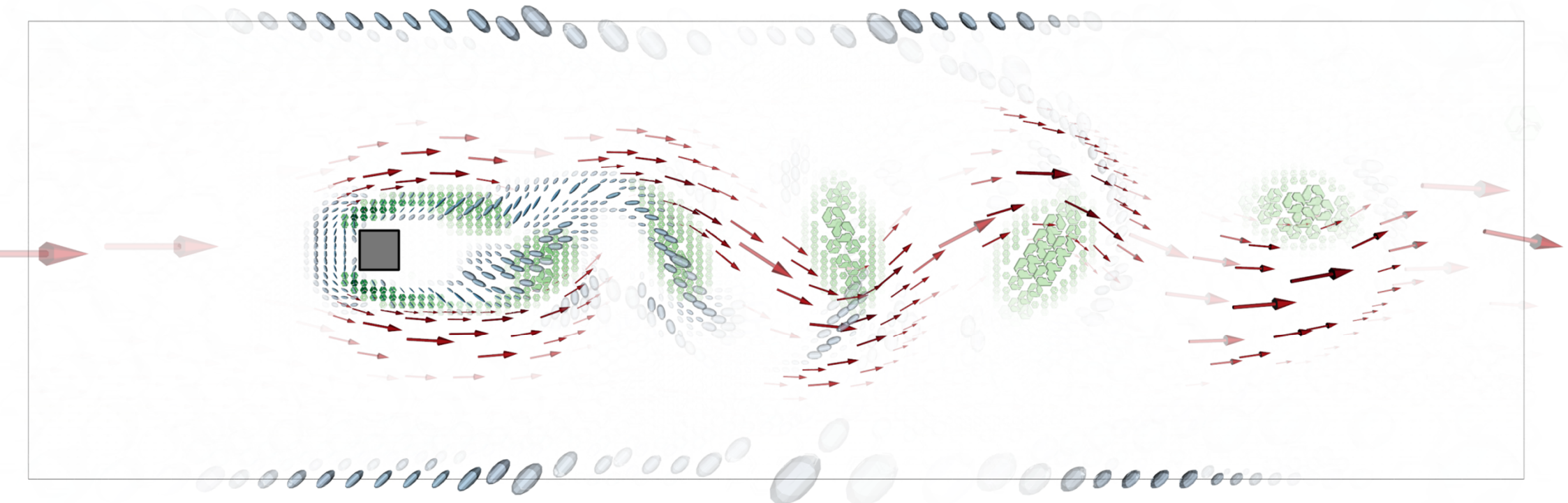
Relevance
measure for
Rate of Strain



relevance

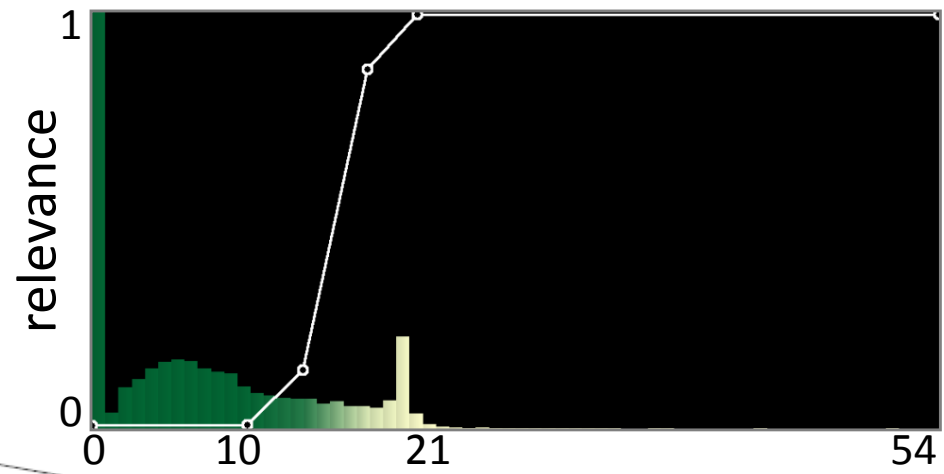
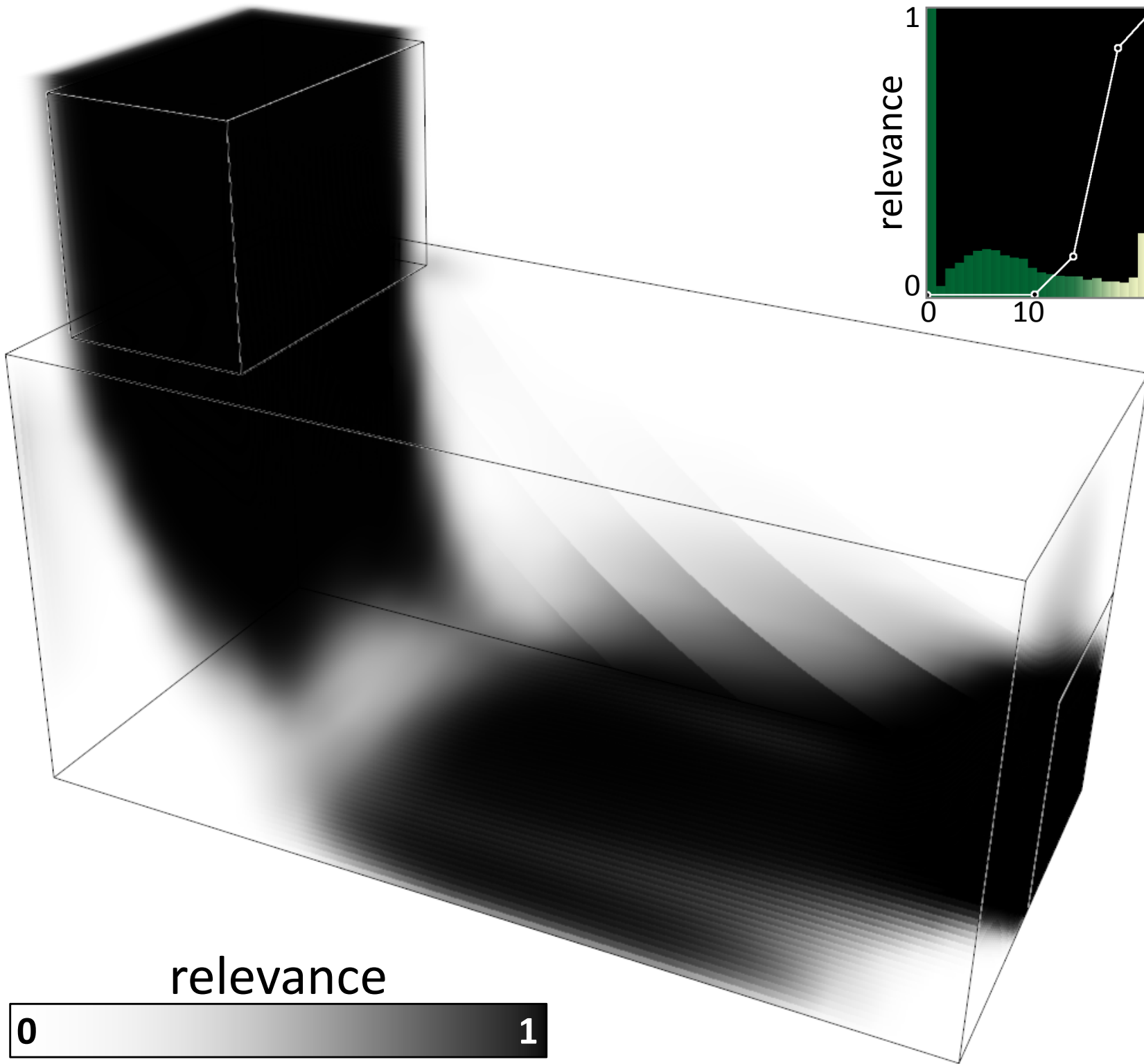


Result



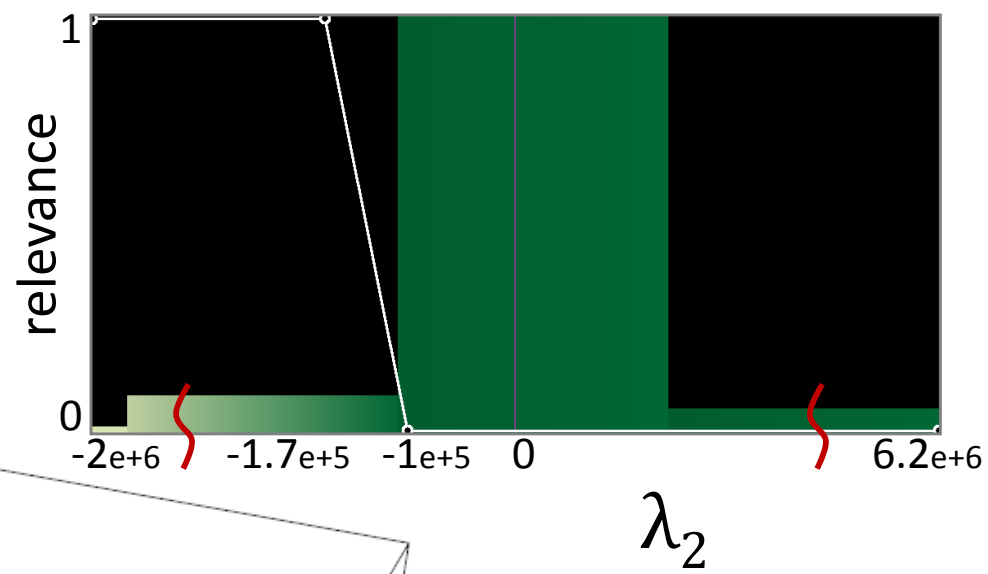
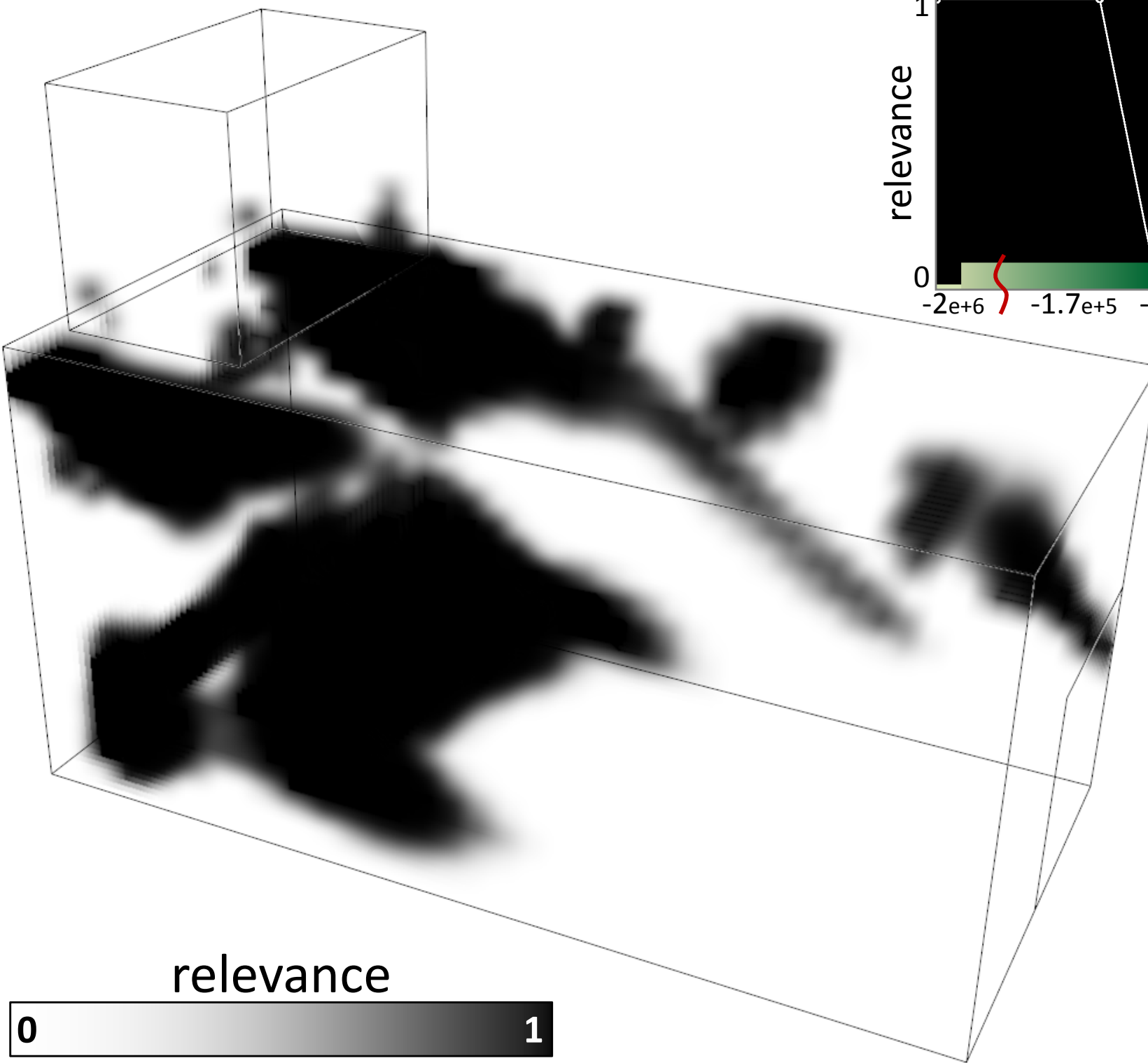
Flow in a Box

	Velocity	Vorticity	Rate of strain
Relevance	upstream velocity	negative λ_2	negative Q
Coherency	$c_{\dot{v}}$	c_{diff_v}	entropy of Frobenius norm
Coh. thresh.	0.1	0.15	0.3

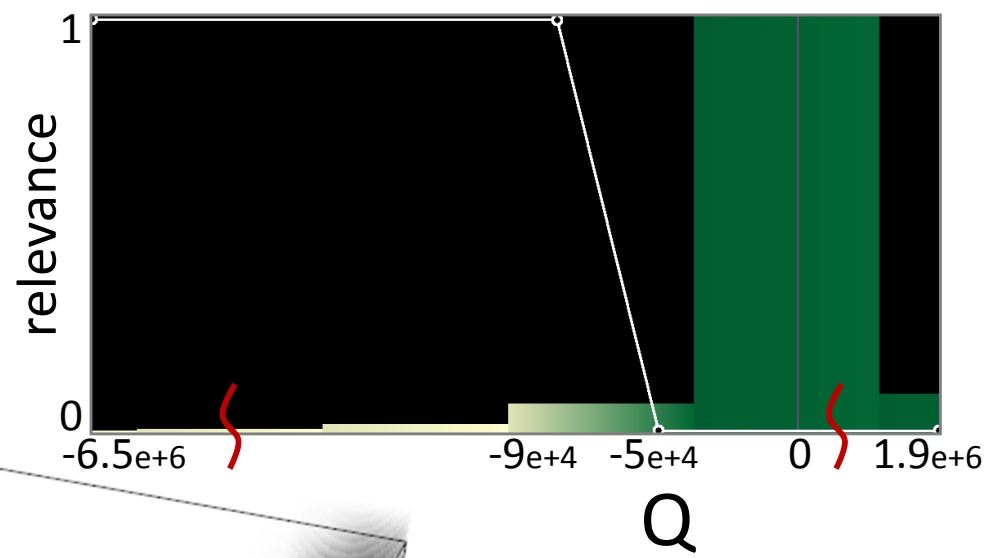
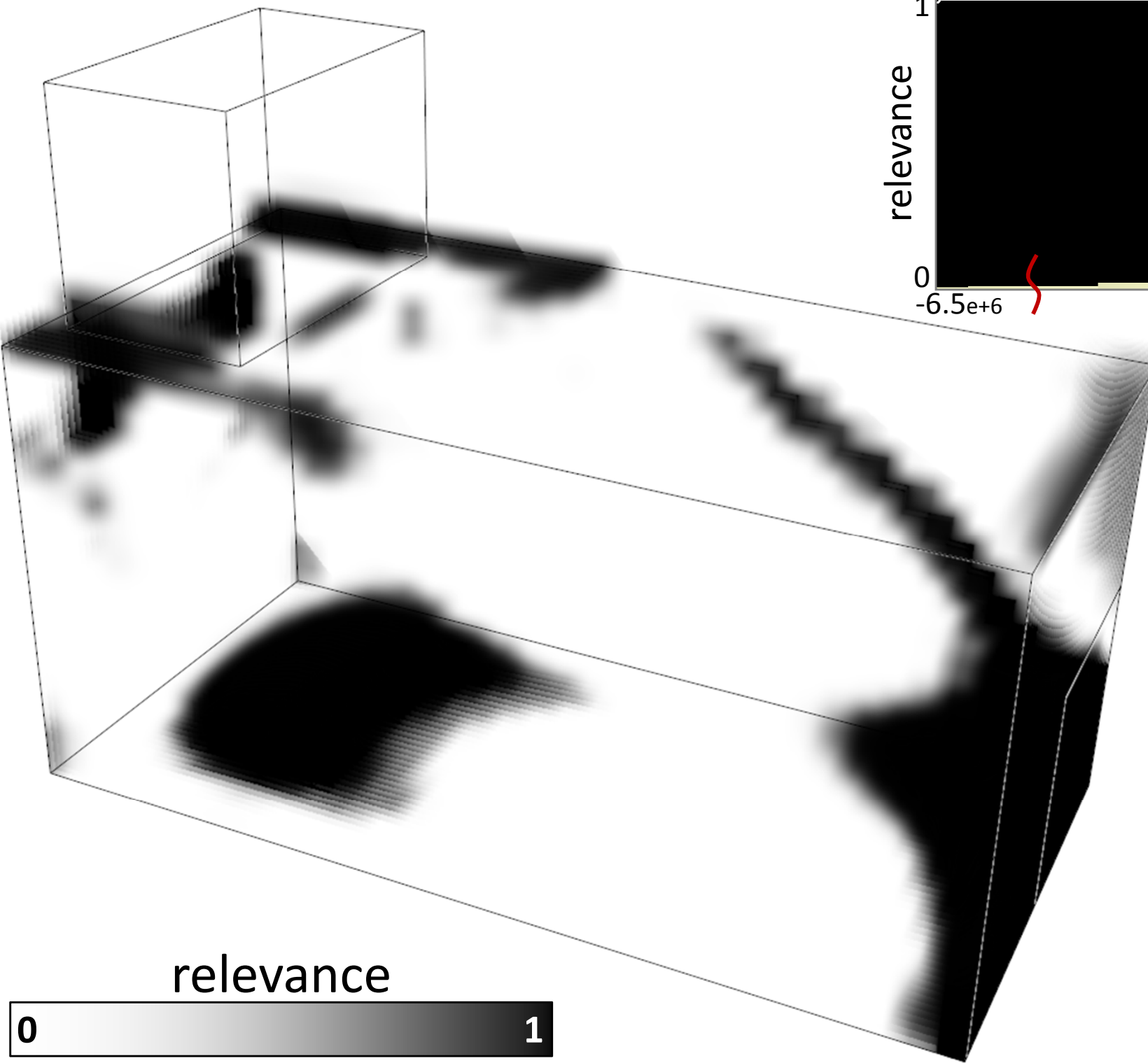


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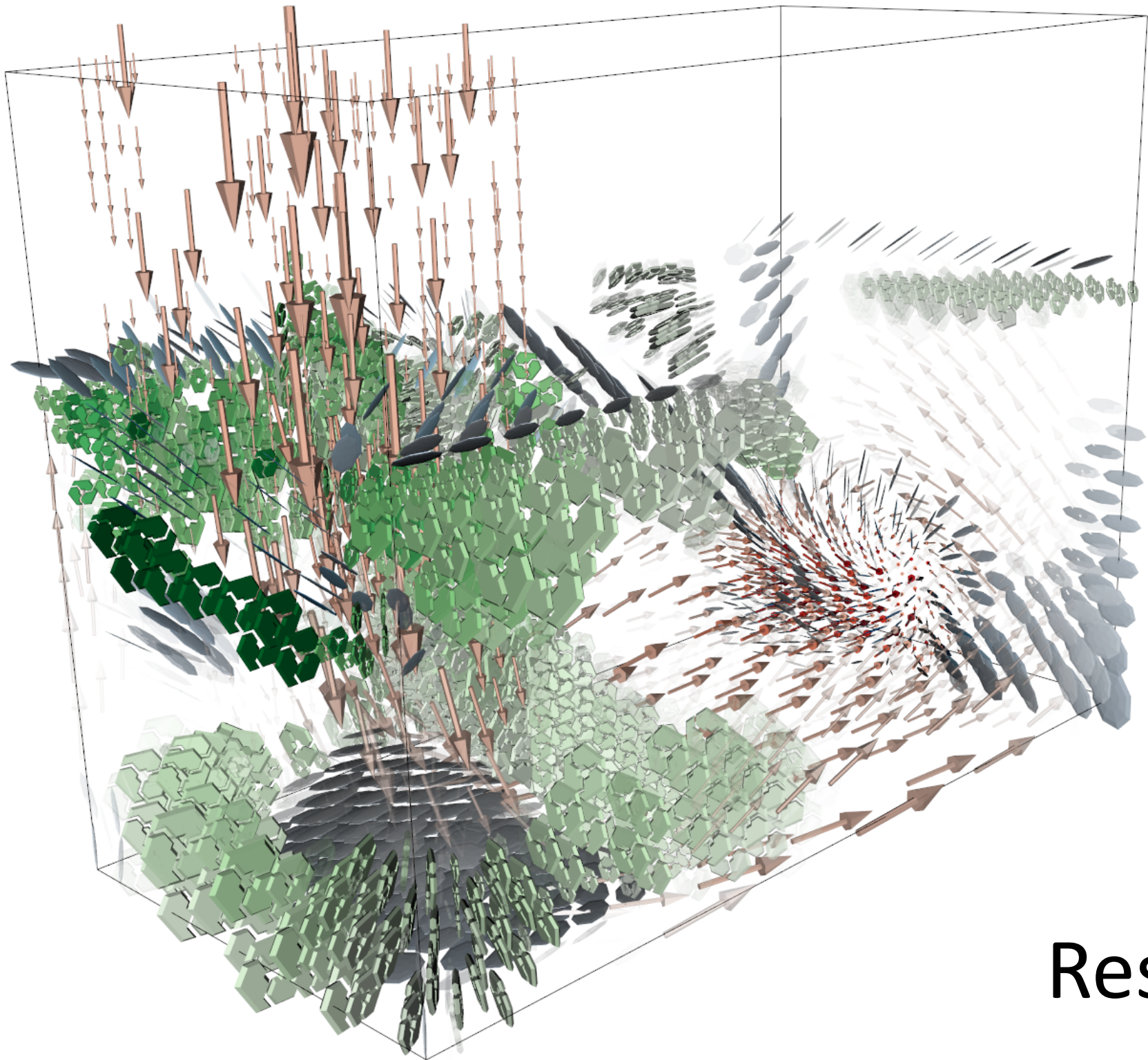
Relevance
measure for
Velocity



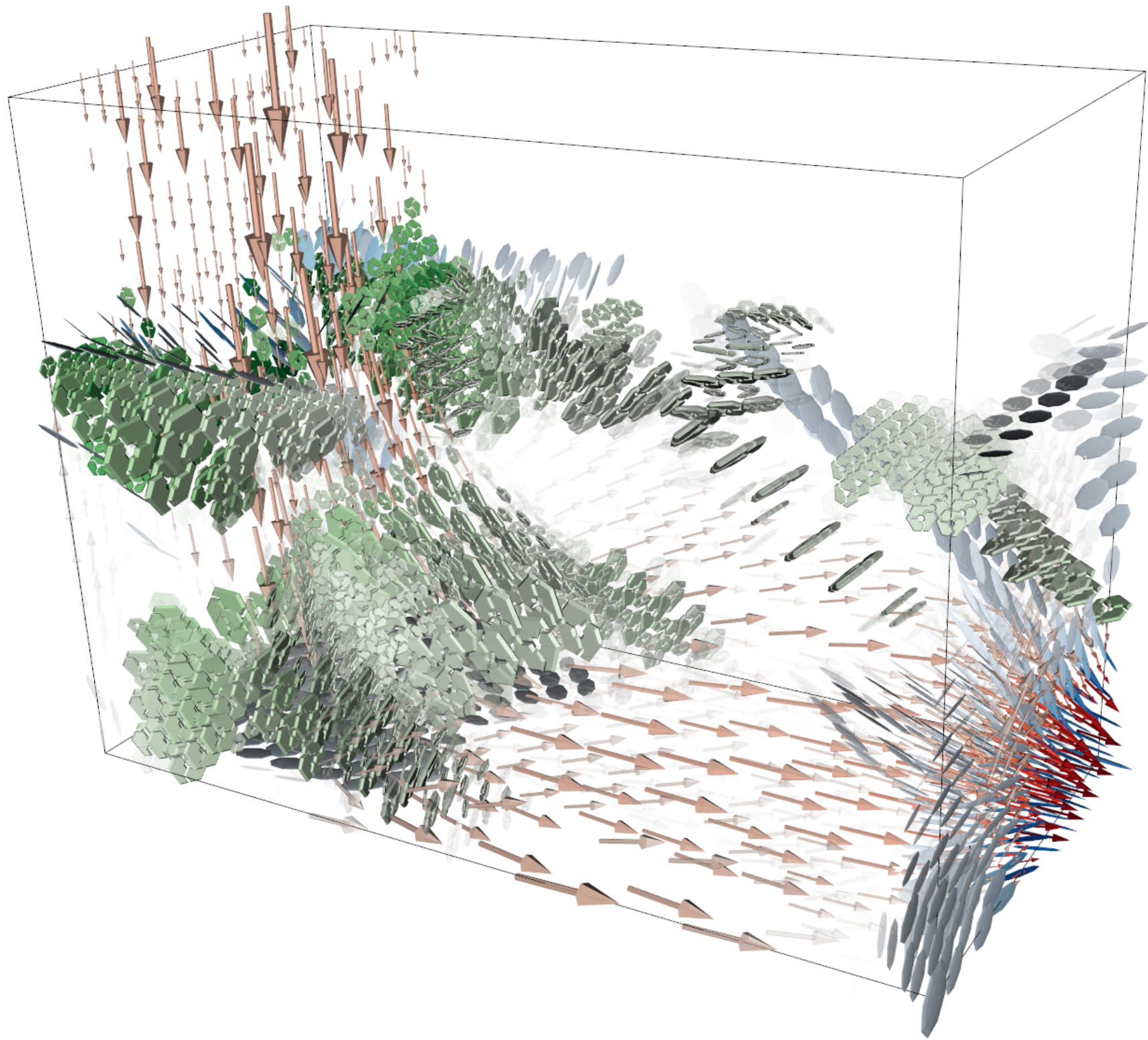
Relevance
measure for
Vorticity

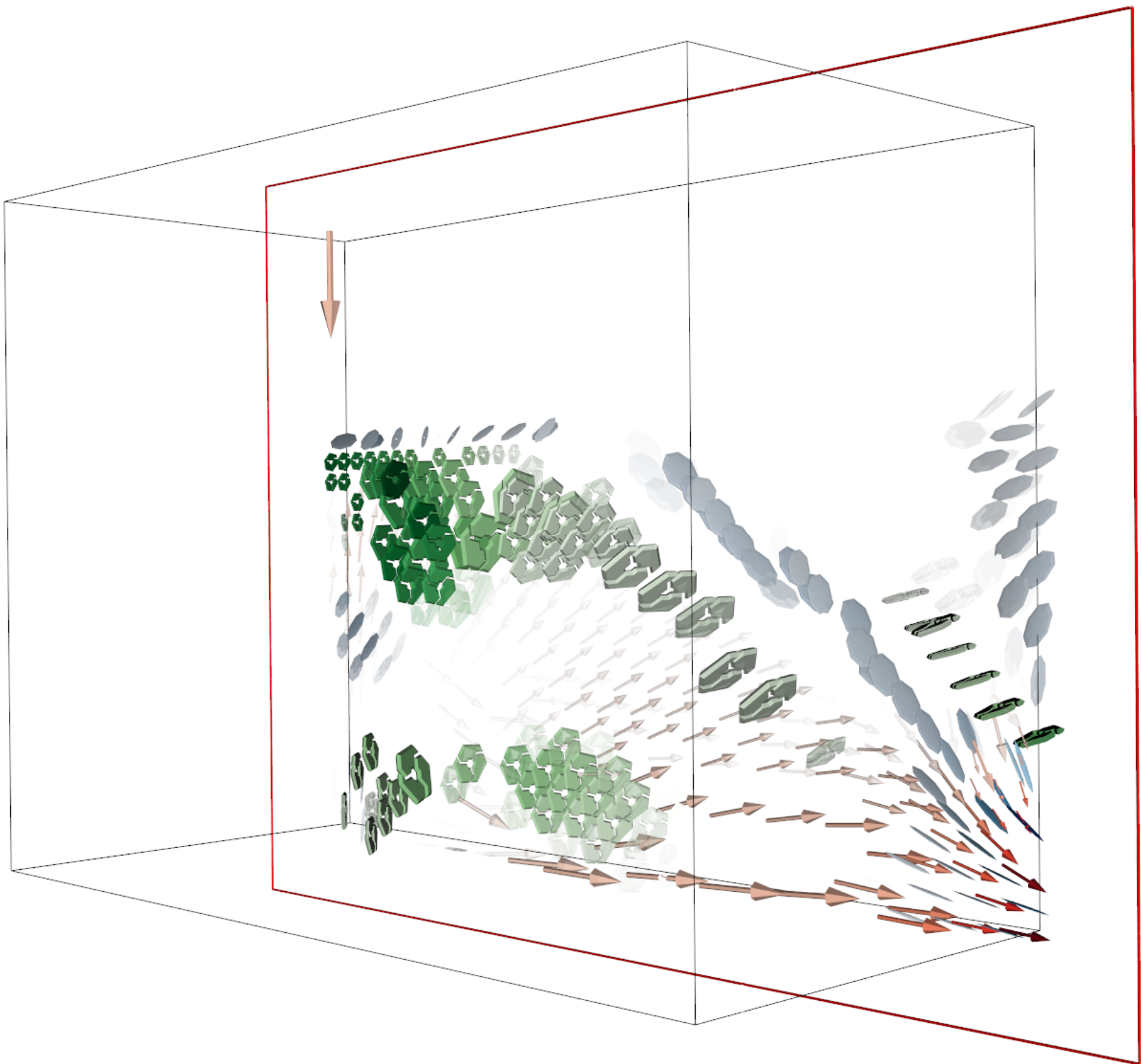


Relevance
measure for
Rate of Strain



Result





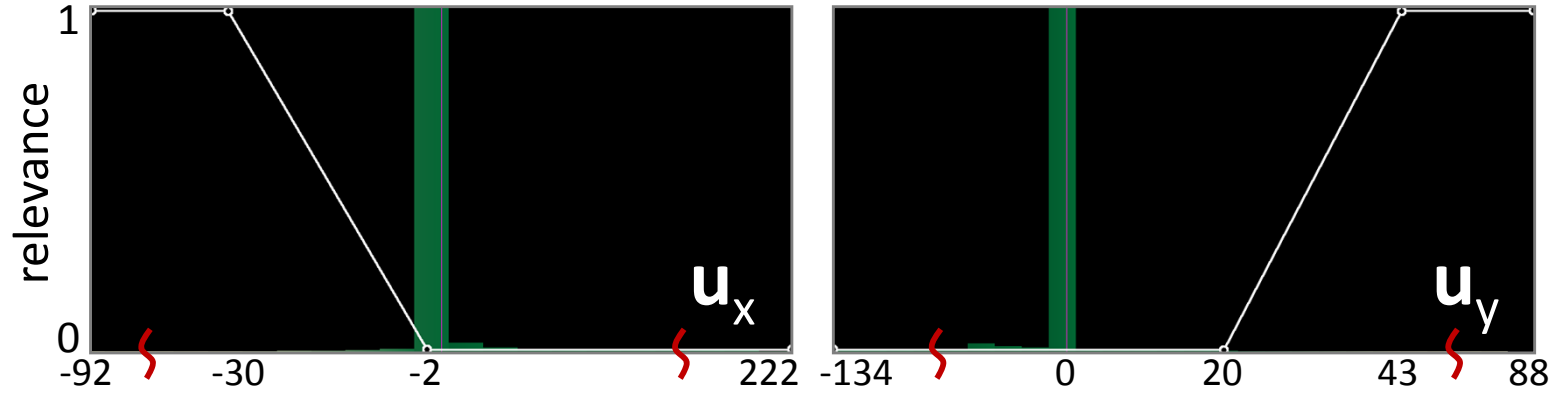
Exhaust Manifold

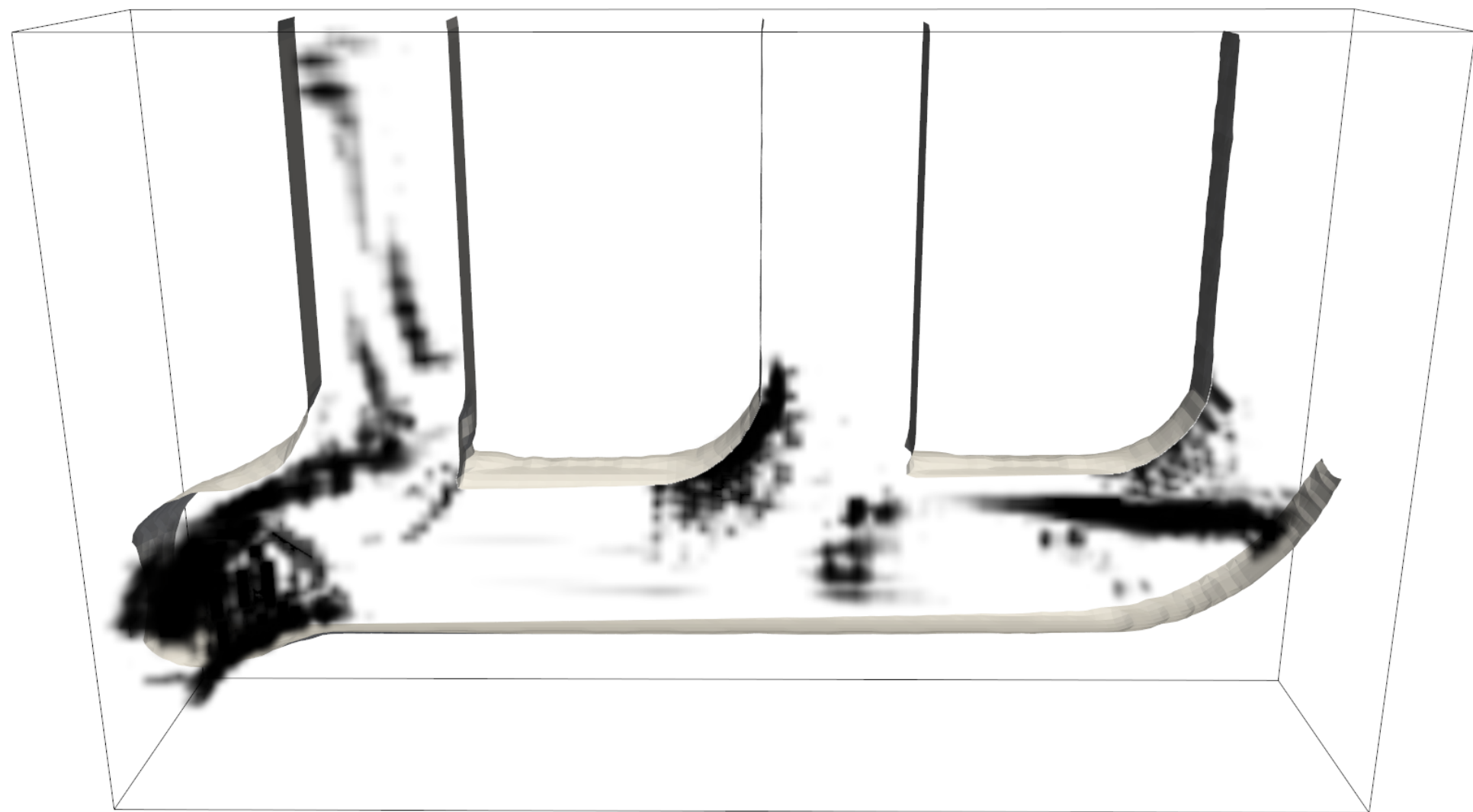
	Velocity	Vorticity	Rate of strain
Relevance	upstream velocity	negative λ_2	negative Q
Coherency	c_{dot_v}	entropy of Euclidean norm	c_{dot_v}
Coh. thresh.	0.25	0.4	0.4



We identify the *upstream velocity* as the max of these relevance measures

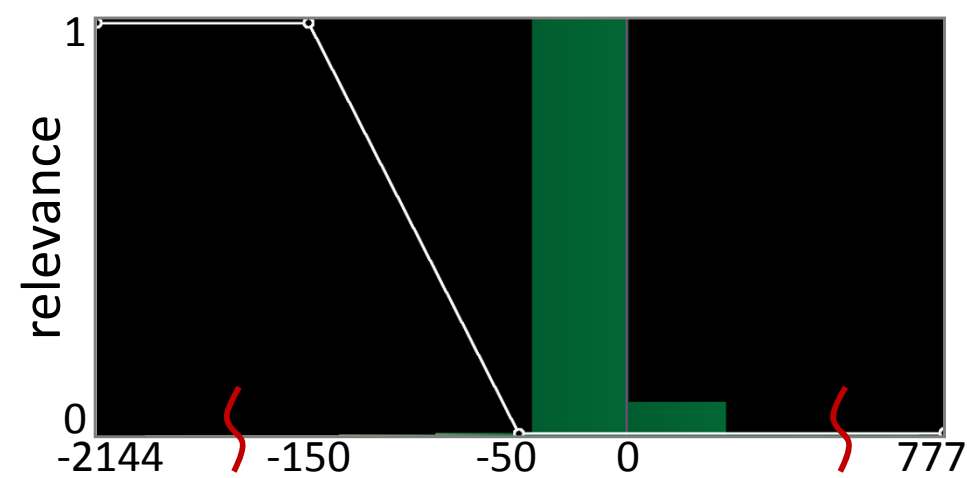
Relevance
measure for
Velocity



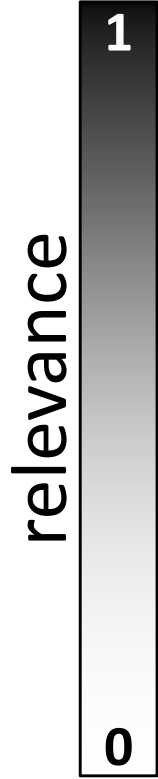
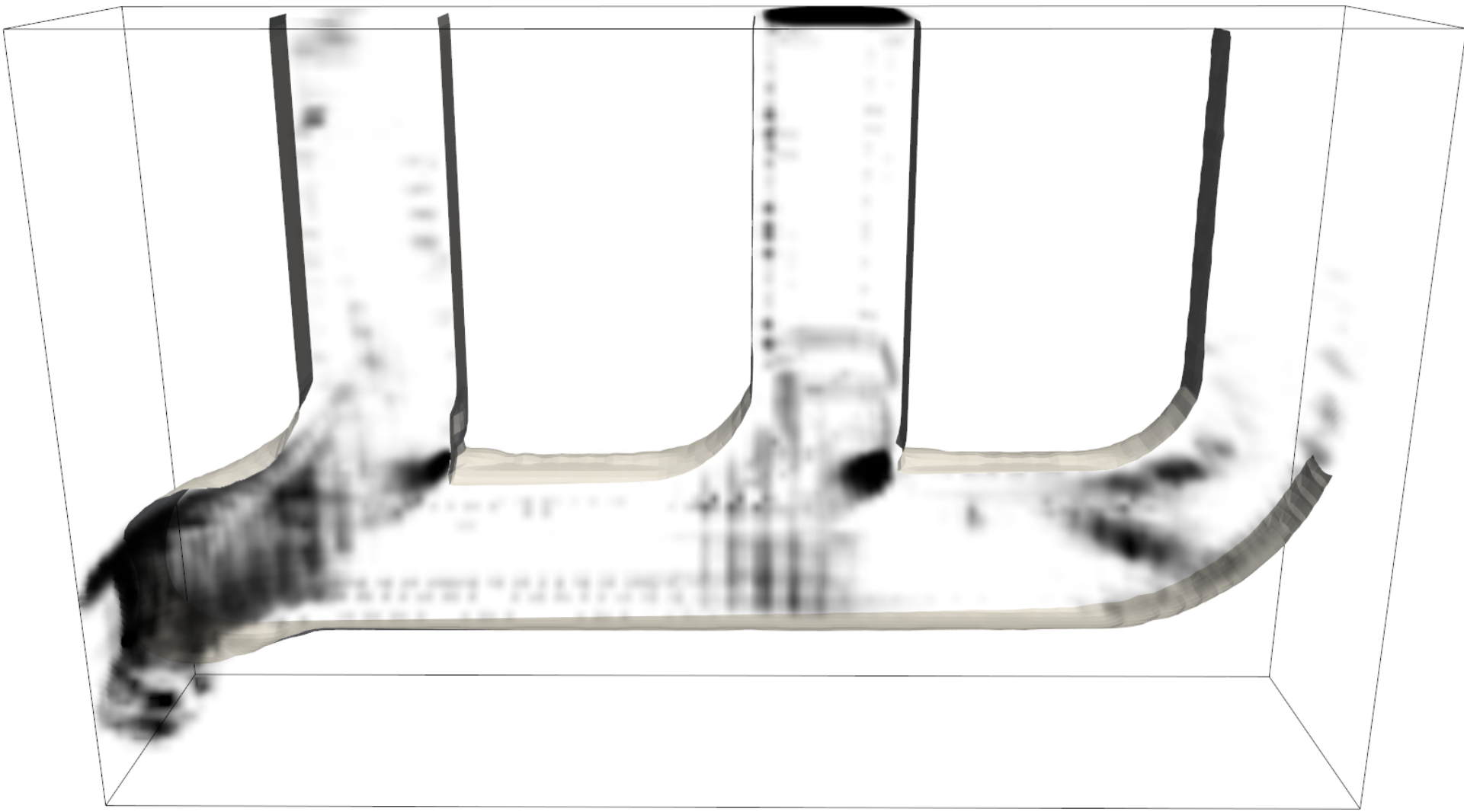


λ_2

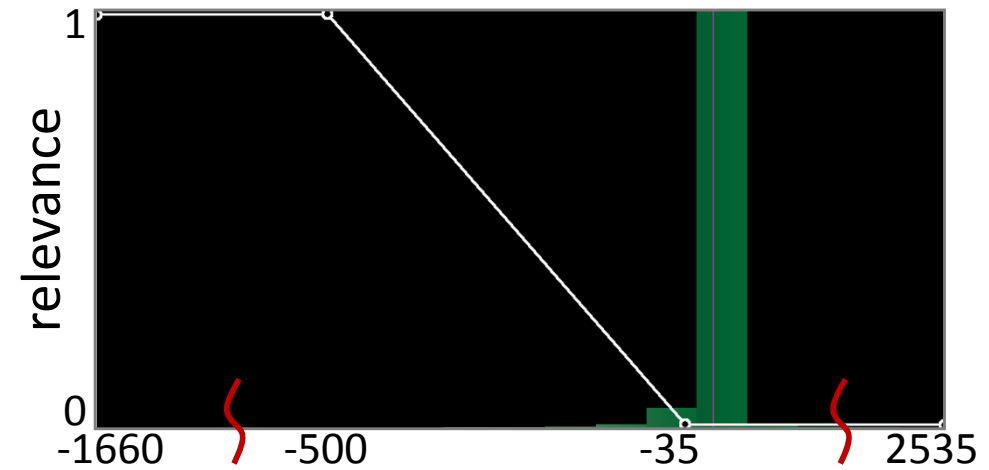
Relevance
measure for
Vorticity



Relevance
measure for
Rate of Strain



Q



Result

