

# Haecheon Choi

## List of Publications by Year in descending order

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144  
papers

11,621  
citations

36203

51  
h-index

27345

106  
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147  
all docs

147  
docs citations

147  
times ranked

5424  
citing authors

#	ARTICLE	IF	CITATIONS
1	Toward neural-network-based large eddy simulation: application to turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2021, 914, .	1.4	58
2	A predictive model of the drag coefficient of a circular cylinder. <i>Physics of Fluids</i> , 2021, 33, .	1.6	3
3	Modification of flow behind a circular cylinder by steady and time-periodic blowing. <i>Physics of Fluids</i> , 2021, 33, .	1.6	11
4	A numerical and theoretical study of the aerodynamic performance of a hovering rhinoceros beetle ( <i>Trypoxylus dichotomus</i> ). <i>Journal of Fluid Mechanics</i> , 2020, 885, .	1.4	12
5	Machine-learning-based feedback control for drag reduction in a turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2020, 904, .	1.4	38
6	A zero-dimensional predictive model for the pressure drop in the stenotic coronary artery based on its geometric characteristics. <i>Journal of Biomechanics</i> , 2020, 113, 110076.	0.9	7
7	Effects of pannus formation on the flow around a bileaflet mechanical heart valve. <i>PLoS ONE</i> , 2020, 15, e0234341.	1.1	4
8	Effect of body angle on the aerodynamics of a rhinoceros beetle: Smoke-wire visualization in a wind tunnel. <i>Journal of Mechanical Science and Technology</i> , 2020, 34, 209-218.	0.7	1
9	Drag reduction on a three-dimensional model vehicle using a wire-to-plate DBD plasma actuator. <i>Experiments in Fluids</i> , 2020, 61, 1.	1.1	9
10	Fluid-Structure Interactions of Large Amplitude Vibrations. <i>Lecture Notes in Mechanical Engineering</i> , 2019, , 191-198.	0.3	1
11	Predictions of the effective slip length and drag reduction with a lubricated micro-groove surface in a turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2019, 874, 797-820.	1.4	40
12	Immersed boundary methods for fluid-structure interaction: A review. <i>International Journal of Heat and Fluid Flow</i> , 2019, 75, 301-309.	1.1	93
13	Flow over a ski jumper in flight: Prediction of the aerodynamic force and flight posture with higher lift-to-drag ratio. <i>Journal of Biomechanics</i> , 2019, 89, 78-84.	0.9	4
14	Experimental investigation of tip-leakage flow in an axial flow fan at various flow rates. <i>Journal of Mechanical Science and Technology</i> , 2019, 33, 1271-1278.	0.7	15
15	Effect of a casing fence on the tip-leakage flow of an axial flow fan. <i>International Journal of Heat and Fluid Flow</i> , 2019, 77, 157-170.	1.1	15
16	Effect of the spanwise computational domain size on the flow over a two-dimensional bluff body with spanwise periodic perturbations at low Reynolds number. <i>Computers and Fluids</i> , 2019, 183, 102-106.	1.3	4
17	Iterative Feedback Tuning of the Proportional-Integral-Differential Control of Flow Over a Circular Cylinder. <i>IEEE Transactions on Control Systems Technology</i> , 2019, 27, 1385-1396.	3.2	18
18	A weak-coupling immersed boundary method for fluid-structure interaction with low density ratio of solid to fluid. <i>Journal of Computational Physics</i> , 2018, 359, 296-311.	1.9	35

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19	Scaling law for the lift force of autorotating falling seeds at terminal velocity. <i>Journal of Fluid Mechanics</i> , 2018, 835, 406-420.	1.4	12
20	Flow structure modifications by leading-edge tubercles on a 3D wing. <i>Bioinspiration and Biomimetics</i> , 2018, 13, 066011.	1.5	16
21	Scale interactions and spectral energy transfer in turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2018, 854, 474-504.	1.4	74
22	A predictive model of the drag coefficient for a revolving wing at low Reynolds number. <i>Bioinspiration and Biomimetics</i> , 2018, 13, 054001.	1.5	1
23	Flow characteristics in a volute-type centrifugal pump using large eddy simulation. <i>International Journal of Heat and Fluid Flow</i> , 2018, 72, 52-60.	1.1	57
24	Direct numerical simulation of a turbulent core-annular flow with water-lubricated high viscosity oil in a vertical pipe. <i>Journal of Fluid Mechanics</i> , 2018, 849, 419-447.	1.4	15
25	Control of flow around a low Reynolds number airfoil using longitudinal strips. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	8
26	Linear proportional–integral control for skin-friction reduction in a turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2017, 814, 430-451.	1.4	9
27	Characteristics of the alula in relation to wing and body size in the Laridae and Sternidae. <i>Animal Cells and Systems</i> , 2017, 21, 63-69.	0.8	10
28	Flight of a falling maple seed. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	13
29	Flow around a helically twisted elliptic cylinder. <i>Physics of Fluids</i> , 2016, 28, .	1.6	46
30	Skin-friction generation by attached eddies in turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2016, 808, 511-538.	1.4	72
31	Control of Flow Separation in a Turbulent Boundary Layer Using Time-Periodic Forcing. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2016, 138, .	0.8	7
32	Effects of the air layer of an idealized superhydrophobic surface on the slip length and skin-friction drag. <i>Journal of Fluid Mechanics</i> , 2016, 790, .	1.4	35
33	Hydrodynamic role of longitudinal dorsal ridges in a leatherback turtle swimming. <i>Scientific Reports</i> , 2016, 6, 34283.	1.6	19
34	Vortical structures around a flexible oscillating panel for maximum thrust in a quiescent fluid. <i>Journal of Fluids and Structures</i> , 2016, 67, 241-260.	1.5	19
35	A bio-inspired device for drag reduction on a three-dimensional model vehicle. <i>Bioinspiration and Biomimetics</i> , 2016, 11, 026004.	1.5	22
36	Optimal disturbances in the near-wall region of turbulent channel flows. <i>Physical Review Fluids</i> , 2016, 1, .	1.0	3

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37	A scaling law for the lift of hovering insects. <i>Journal of Fluid Mechanics</i> , 2015, 782, 479-490.	1.4	20
38	Sectional lift coefficient of a rotating wing at low Reynolds numbers. <i>Journal of Mechanical Science and Technology</i> , 2015, 29, 4775-4781.	0.7	2
39	Illustration of Wing Deformation Effects in Three-Dimensional Flapping Flight. <i>AIAA Journal</i> , 2015, 53, 2607-2620.	1.5	11
40	The Function of the Alula in Avian Flight. <i>Scientific Reports</i> , 2015, 5, 9914.	1.6	42
41	A discrete-forcing immersed boundary method for the fluid-structure interaction of an elastic slender body. <i>Journal of Computational Physics</i> , 2015, 280, 529-546.	1.9	57
42	Aerodynamics of a golf ball with grooves. <i>Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology</i> , 2014, 228, 233-241.	0.4	6
43	Inverse Magnus effect on a rotating sphere: when and why. <i>Journal of Fluid Mechanics</i> , 2014, 754, .	1.4	41
44	Space-time characteristics of a compliant wall in a turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2014, 756, 30-53.	1.4	32
45	Control of laminar vortex shedding behind a circular cylinder using tabs. <i>Journal of Mechanical Science and Technology</i> , 2014, 28, 1721-1725.	0.7	14
46	Aerodynamics of Heavy Vehicles. <i>Annual Review of Fluid Mechanics</i> , 2014, 46, 441-468.	10.8	132
47	Flow structures around a butterfly-shaped low-aspect-ratio wing. <i>Journal of Mechanical Science and Technology</i> , 2014, 28, 2669-2675.	0.7	5
48	Large eddy simulations of turbulent channel and boundary layer flows at high Reynolds number with mean wall shear stress boundary condition. <i>Physics of Fluids</i> , 2013, 25, .	1.6	41
49	Stabilization of absolute instability in spanwise wavy two-dimensional wakes. <i>Journal of Fluid Mechanics</i> , 2013, 727, 346-378.	1.4	45
50	Hydrodynamic Characteristics of the Sailfish ( <i>Istiophorus platypterus</i> ) and Swordfish ( <i>Xiphias</i> ) <a href="#">Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 222</a>	1.1	24
51	A dynamic global subgrid-scale model for large eddy simulation of scalar transport in complex turbulent flows. <i>Journal of Mechanical Science and Technology</i> , 2012, 26, 3803-3810.	0.7	6
52	Kinematic control of aerodynamic forces on an inclined flapping wing with asymmetric strokes. <i>Bioinspiration and Biomimetics</i> , 2012, 7, 016008.	1.5	36
53	Grid-point requirements for large eddy simulation: Chapman's estimates revisited. <i>Physics of Fluids</i> , 2012, 24, .	1.6	501
54	Mechanism of drag reduction by a surface trip wire on a sphere. <i>Journal of Fluid Mechanics</i> , 2011, 672, 411-427.	1.4	29

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55	A proportionalâ€“integralâ€“differential control of flow over a circular cylinder. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 1540-1555.	1.6	17
56	Sources of spurious force oscillations from an immersed boundary method for moving-body problems. Journal of Computational Physics, 2011, 230, 2677-2695.	1.9	148
57	Flow-control approaches to drag reduction in aerodynamics: progress and prospects. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 1349-1351.	1.6	17
58	A Discrete-Forcing Immersed Boundary Method for the Fluid-Structure Interaction of an Elastic Slender Body. , 2011, , .		0
59	A PID Control of Flow Over a Circular Cylinder. , 2011, , .		0
60	Aerodynamic Performance of a Gliding Swallowtail Butterfly Wing Model. Experimental Mechanics, 2010, 50, 1313-1321.	1.1	29
61	Suboptimal feedback control of flow over a sphere. International Journal of Heat and Fluid Flow, 2010, 31, 208-216.	1.1	5
62	Aerodynamic characteristics of flying fish in gliding flight. Journal of Experimental Biology, 2010, 213, 3269-3279.	0.8	84
63	Effect of free-stream turbulence on the flow over a sphere. Physics of Fluids, 2010, 22, .	1.6	30
64	Dynamic global model for large eddy simulation of transient flow. Physics of Fluids, 2010, 22, .	1.6	40
65	Sectional lift coefficient of a flapping wing in hovering motion. Physics of Fluids, 2010, 22, .	1.6	51
66	Large eddy simulation of a circular jet: effect of inflow conditions on the near field. Journal of Fluid Mechanics, 2009, 620, 383-411.	1.4	96
67	Boundary treatment for the unsteady surface velocity in an immersed boundary method. Journal of Mechanical Science and Technology, 2009, 23, 2502-2506.	0.7	2
68	Control of Flow Over a Bluff Body. Annual Review of Fluid Mechanics, 2008, 40, 113-139.	10.8	769
69	Does the sailfish skin reduce the skin friction like the shark skin?. Physics of Fluids, 2008, 20, .	1.6	32
70	Sensitivity of global instability of spatially developing flow in weakly and fully nonlinear regimes. Physics of Fluids, 2008, 20, 071703.	1.6	6
71	Preface to Special Topic: Turbulence Physics and Controlâ€“Papers from a Workshop in Honor of John Kim's 60th Birthday, Stanford, California, September 2007. Physics of Fluids, 2008, 20, 101501.	1.6	0
72	Mixing enhancement behind a backward-facing step using tabs. Physics of Fluids, 2007, 19, .	1.6	57

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73	Effect of local forcing on backward-facing step flow with laminar separation. Journal of Turbulence, 2007, 8, N6.	0.5	3
74	Large eddy simulation of flow and heat transfer in a rotating ribbed channel. International Journal of Heat and Mass Transfer, 2007, 50, 4937-4947.	2.5	23
75	Two-dimensional mechanism of hovering flight by single flapping wing. Journal of Mechanical Science and Technology, 2007, 21, 207-221.	0.7	20
76	Control of absolute instability by basic-flow modification in a parallel wake at low Reynolds number. Journal of Fluid Mechanics, 2006, 560, 465.	1.4	39
77	Drag reduction in flow over a two-dimensional bluff body with a blunt trailing edge using a new passive device. Journal of Fluid Mechanics, 2006, 563, 389.	1.4	115
78	Immersed boundary method for flow around an arbitrarily moving body. Journal of Computational Physics, 2006, 212, 662-680.	1.9	181
79	Mechanism of drag reduction by dimples on a sphere. Physics of Fluids, 2006, 18, 041702.	1.6	166
80	Effects of large density variation on strongly heated internal air flows. Physics of Fluids, 2006, 18, 075102.	1.6	48
81	Vortical structures behind a sphere at subcritical Reynolds numbers. Physics of Fluids, 2006, 18, 015102.	1.6	119
82	A dynamic subgrid-scale eddy viscosity model with a global model coefficient. Physics of Fluids, 2006, 18, 125109.	1.6	103
83	Large Eddy Simulation of Flow and Heat Transfer in a Channel Roughened by Square or Semicircle Ribs. Journal of Turbomachinery, 2005, 127, 263-269.	0.9	36
84	Combined effects of polymers and active blowing/suction on drag reduction. Journal of Non-Newtonian Fluid Mechanics, 2005, 131, 53-58.	1.0	3
85	Characteristics of laminar flow past a sphere in uniform shear. Physics of Fluids, 2005, 17, 103602.	1.6	19
86	Toward improved consistency of a priori tests with a posteriori tests in large eddy simulation. Physics of Fluids, 2005, 17, 015103.	1.6	21
87	Distributed forcing of flow over a circular cylinder. Physics of Fluids, 2005, 17, 033103.	1.6	176
88	Direct numerical simulation of turbulent supercritical flows with heat transfer. Physics of Fluids, 2005, 17, 105104.	1.6	202
89	Large Eddy Simulation of a Free Circular Jet up to $Re=100,000$ (Numerical Simulation). The Proceedings of the International Conference on Jets Wakes and Separated Flows (ICJWSF), 2005, 2005, 721-724.	0.1	0
90	Active control of turbulent flow over a model vehicle for drag reduction. Journal of Turbulence, 2004, 5, .	0.5	27

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91	Very Large-Scale Structures and Their Effects on the Wall Shear-Stress Fluctuations in a Turbulent Channel Flow up to $Re_{\tau}^* = 640$ . <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2004, 126, 835-843.	0.8	149
92	Optimal Shape Design of a Two-Dimensional Asymmetric Diffuser in Turbulent Flow. <i>AIAA Journal</i> , 2004, 42, 1154-1169.	1.5	24
93	Prediction of Sound from Flow over Circular Cylinder Using Modified Green Function. <i>AIAA Journal</i> , 2004, 42, 2612-2615.	1.5	1
94	An immersed-boundary finite-volume method for simulation of heat transfer in complex geometries. <i>Journal of Mechanical Science and Technology</i> , 2004, 18, 1026-1035.	0.4	143
95	Discretization errors in large eddy simulation: on the suitability of centered and upwind-biased compact difference schemes. <i>Journal of Computational Physics</i> , 2004, 198, 580-616.	1.9	80
96	Active control of flow over a sphere for drag reduction at a subcritical Reynolds number. <i>Journal of Fluid Mechanics</i> , 2004, 517, 113-129.	1.4	64
97	Distributed Forcing for Flow over a Bluff Body. , 2004, , .		0
98	Sound Characteristics from Turbulent Flow over a Sphere. , 2004, , .		0
99	Direct numerical simulation of heated vertical air flows in fully developed turbulent mixed convection. <i>International Journal of Heat and Mass Transfer</i> , 2003, 46, 1613-1627.	2.5	76
100	Maximum drag reduction in a turbulent channel flow by polymer additives. <i>Journal of Fluid Mechanics</i> , 2003, 492, 91-100.	1.4	88
101	Drag reduction by polymer additives in a turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2003, 486, 213-238.	1.4	224
102	Effect of a localized time-periodic wall motion on a turbulent boundary layer flow. <i>Physics of Fluids</i> , 2003, 15, 265-268.	1.6	7
103	Laminar flow past a hemisphere. <i>Physics of Fluids</i> , 2003, 15, 2457-2460.	1.6	26
104	Characteristics of flow over a rotationally oscillating cylinder at low Reynolds number. <i>Physics of Fluids</i> , 2002, 14, 2767-2777.	1.6	109
105	Suboptimal feedback control of turbulent flow over a backward-facing step. <i>Journal of Fluid Mechanics</i> , 2002, 463, 201-227.	1.4	49
106	Laminar flow past a sphere rotating in the streamwise direction. <i>Journal of Fluid Mechanics</i> , 2002, 461, 365-386.	1.4	83
107	Direct numerical simulation of turbulent channel flow with permeable walls. <i>Journal of Fluid Mechanics</i> , 2002, 450, 259-285.	1.4	86
108	Control of Flow Around an Airfoil Using Piezoceramic Actuators. <i>AIAA Journal</i> , 2002, 40, 1008-1010.	1.5	8

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109	Magnetohydrodynamic turbulent flow in a channel at low magnetic Reynolds number. <i>Journal of Fluid Mechanics</i> , 2001, 439, 367-394.	1.4	125
110	Dissimilarity between the velocity and temperature fields in a perturbed turbulent thermal boundary layer. <i>Physics of Fluids</i> , 2001, 13, 1466-1479.	1.6	32
111	Effect of spatial discretization schemes on numerical solutions of viscoelastic fluid flows. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2001, 100, 27-47.	1.0	63
112	An Immersed-Boundary Finite-Volume Method for Simulations of Flow in Complex Geometries. <i>Journal of Computational Physics</i> , 2001, 171, 132-150.	1.9	957
113	A Second-Order Time-Accurate Finite Volume Method for Unsteady Incompressible Flow on Hybrid Unstructured Grids. <i>Journal of Computational Physics</i> , 2000, 162, 411-428.	1.9	171
114	A modified fractional step method of keeping a constant mass flow rate in fully developed channel and pipe flows. <i>Journal of Mechanical Science and Technology</i> , 2000, 14, 547-552.	0.4	25
115	Resonance in Axisymmetric Jet Under Controlled Helical, Fundamental, and Axisymmetric Subharmonic Forcing. <i>AIAA Journal</i> , 2000, 38, 434-441.	1.5	12
116	Drag Reduction with a Sliding Wall in Flow over a Circular Cylinder. <i>AIAA Journal</i> , 2000, 38, 715-717.	1.5	15
117	Direct numerical simulation of turbulent thermal boundary layers. <i>Physics of Fluids</i> , 2000, 12, 2555.	1.6	125
118	Active wall motions for skin-friction drag reduction. <i>Physics of Fluids</i> , 2000, 12, 3301-3304.	1.6	89
119	Effects of uniform blowing or suction from a spanwise slot on a turbulent boundary layer flow. <i>Physics of Fluids</i> , 1999, 11, 3095-3105.	1.6	136
120	Instantaneous control of backward-facing step flows. <i>Applied Numerical Mathematics</i> , 1999, 31, 133-158.	1.2	87
121	Laminar flow past a rotating circular cylinder. <i>Physics of Fluids</i> , 1999, 11, 3312-3321.	1.6	254
122	Space-time characteristics of the wall shear-stress fluctuations in a low-Reynolds-number channel flow. <i>Physics of Fluids</i> , 1999, 11, 3084-3094.	1.6	45
123	Suboptimal feedback control of vortex shedding at low Reynolds numbers. <i>Journal of Fluid Mechanics</i> , 1999, 401, 123-156.	1.4	133
124	Numerical solutions of flow past a circular cylinder at Reynolds numbers up to 160. <i>Journal of Mechanical Science and Technology</i> , 1998, 12, 1200-1205.	0.4	306
125	Vortex pairing in an axisymmetric jet using two-frequency acoustic forcing at low to moderate strouhal numbers. <i>Experiments in Fluids</i> , 1998, 25, 305-315.	1.1	34
126	Control of Flow-Induced Noise Behind a Circular Cylinder Using Splitter Plates. <i>AIAA Journal</i> , 1998, 36, 1961-1967.	1.5	52



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127	On the modification of the near-wall coherent structure in a three-dimensional turbulent boundary layer on a free rotating disk. <i>Physics of Fluids</i> , 1998, 10, 2315-2322.	1.6	19
128	Control of streamwise vortices with uniform magnetic fluxes. <i>Physics of Fluids</i> , 1998, 10, 1997-2005.	1.6	19
129	Suboptimal control of turbulent channel flow for drag reduction. <i>Journal of Fluid Mechanics</i> , 1998, 358, 245-258.	1.4	184
130	Control of flow-induced noise behind a circular cylinder using splitter plates. <i>AIAA Journal</i> , 1998, 36, 1961-1967.	1.5	7
131	A fractional four-step finite element formulation of the unsteady incompressible Navier-Stokes equations using SUPG and linear equal-order element methods. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1997, 143, 333-348.	3.4	89
132	Unsteady Simulation of Jets in a Cross Flow. <i>Journal of Computational Physics</i> , 1997, 134, 342-356.	1.9	29
133	Laminar convective heat transfer of a Bingham plastic in a circular pipe. I. Analytical approach. thermally fully developed flow and thermally developing flow (the Graetz problem) <i>Tj ETQq1 1 0.784314rgBT / Overlock 10</i>		
134	Laminar convective heat transfer of a Bingham plastic in a circular pipe. II. Numerical approach hydrodynamically developing flow and simultaneously developing flow. <i>International Journal of Heat and Mass Transfer</i> , 1997, 40, 3689-3701.	2.5	40
135	Control of laminar vortex shedding behind a circular cylinder using splitter plates. <i>Physics of Fluids</i> , 1996, 8, 479-486.	1.6	330
136	Effects of the Computational Time Step on Numerical Solutions of Turbulent Flow. <i>Journal of Computational Physics</i> , 1994, 113, 1-4.	1.9	494
137	Active turbulence control for drag reduction in wall-bounded flows. <i>Journal of Fluid Mechanics</i> , 1994, 262, 75-110.	1.4	647
138	Direct numerical simulation of turbulent flow over riblets. <i>Journal of Fluid Mechanics</i> , 1993, 255, 503.	1.4	585
139	Feedback control for unsteady flow and its application to the stochastic Burgers equation. <i>Journal of Fluid Mechanics</i> , 1993, 253, 509.	1.4	212
140	On the relation of near-wall streamwise vortices to wall skin friction in turbulent boundary layers. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 3307-3309.	1.6	169
141	On the effect of riblets in fully developed laminar channel flows. <i>Physics of Fluids A, Fluid Dynamics</i> , 1991, 3, 1892-1896.	1.6	46
142	On the space-time characteristics of wall-pressure fluctuations. <i>Physics of Fluids A, Fluid Dynamics</i> , 1990, 2, 1450-1460.	1.6	167
143	On the steady simple shear flows of the one-mode Giesekus fluid. <i>Rheologica Acta</i> , 1989, 28, 13-24.	1.1	63
144	Direct numerical simulation of jets in a cross turbulent boundary layer flow. , 0, , .		0