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Kazuo Yamazaki* (kyamazak@ur.rochester.edu), 1017 Hylan Hall, Department of Mathematics, University of Rochester, Rochester, NY 14627. *Recent Developments on the Component Reduction Results of Serrin-type Regularity Criterion for Equations Concerning Fluid.*

The question of whether the solution to the three-dimensional Navier-Stokes equations preserves its regularity for all time or experiences a finite-time blow-up remains one of the most challenging open problems in the research directions of analysis and partial differential equations. We review recent developments on the component reduction type results of Serrin-type regularity criterion for the equations of fluid, primarily the Navier-Stokes equations, and also list some remaining open problems. (Received February 28, 2017)