ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

10. Partial Differential Equations

1991 MS Classification: 35, 76

Nagasawa, Takeyuki, Tôhoku University, Japan

A new energy inequality and partial regularity for weak solutions of Navier-Stokes equations

We construct weak solutions of Leray-Hopf type of 3-dimensional evolution Navier-Stokes equations by time-discretization method. Our solution satisfies an energy inequality with an extra term, which the usual energy ineuality does not have. The boundedness of the extra term gives a partial regularity reasult of weak solutions.

References: [1] T. Nagasawa, Navier-Stokes flow on Riemannian manifolds, *Nonlinear Anal.* **30** (1997), 825–832. [2] T. Nagasawa, Construction of weak solutions of the Navier-Stokes equations on Riemannian manifold by minimizing variational functionals, to appear in *Adv. Math. Sci. Appl.* **9** (1999).