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Zachary Bradshaw* (zb002@uark.edu), **Igor Kukavica** and **Tai-Peng Tsai**. *Global existence of infinite energy solutions to fluid equations.*

We discuss two sets of results. The first concerns global existence of solutions to the 3D Navier-Stokes equations with data that is not decaying in a local L^2 -sense. Indeed, local L^2 values may be unbounded. Results in this direction have recently been independently established by Fernández-Dalga and Lemarié-Rieusset as well as Bradshaw, Kukavica and Tsai. The new solution classes are noteworthy as they allow for scaling symmetric data. The second concerns the existence and properties of global solutions which occupy a class strictly between Leray's original class of solutions and the local Leray solutions introduced by Lemarié-Rieusset at the turn of the century. These results due to Bradshaw and Tsai shed light on what properties of Leray's original solutions are inherited by the more general class of Lemarié-Rieusset. (Received August 21, 2020)