

First Joint Meeting Brazil Italy of Mathematics Special Session: Recent Progress in Fluid Dynamics

Rio de Janeiro, August 29 - September 02, 2016

Title: On the blow-up scenario for the Euler equations

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Abstract: In this talk we will survey some results regarding the possibility of a self-similar blow-up for the Euler equations and present some new exclusion results. Furthermore, we will present some studies on the fractal dimension of the energy measure, which roughly speaking is the limit of the measures on the space induced by the velocity squared as time approaches the time of the singularity. We will explore the relation between the fractal dimension of the energy measure and the growth of the velocity as time approaches the time of the singularity.