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Igor Kukavica and **Yuan Pei*** (ypei@usc.edu). *An Estimate on the Size of the Singular Set for Solutions of the Navier-Stokes System.*

For a suitable weak solutions of the Navier-Stokes system in a bounded space-time domain D , we estimate the parabolic fractal (or parabolic box-counting) dimension of the singular set and show that it is less than or equal to $45/29$, which is an improvement to the earlier result from (Kukavica 2009). Also, we introduce the new (parabolic) semi-fractal (or β -fractal) dimension and prove that the dimension of the singular set is bounded by $3/2$. In both proofs we use a new test function which is different from the backward heat kernel as used in many other literatures, as well as an improved treatment of the pressure.

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