1113-58-119   **Carla Farsi** and **Markus J Pflaum*** (`markus.pflaum@colorado.edu`), Department of Mathematics UCB 395, University of Colorado, Boulder, CO 80309, and **Hessel B. Posthuma**, **Christopher Seaton** and **Xiang Tang**. *The inertia space of a proper Lie groupoid and cyclic homology of its convolution algebra.*

Given a proper Lie groupoid G we study the singularity theory of its inertia space, which can be defined as the orbit space of the groupoid action on the loop space. The inertia space carries the structure of a differentiable stratified space which will be explained in the talk. We also show how the space of forms on this singular space relates to the cyclic homology theory of the convolution algebra. (Received August 16, 2015)