1052-55-254   **David Blanc** and **Simona Paoli*** (`sup24@psu.edu`), Department of Mathematics, Penn State Altoona, 3000 Ivyside Park, Altoona, PA 16601. *Two-track categories.*

Categories enriched in groupoids, also called track categories, are well known algebraic models for the first Postnikov truncation of simplicially enriched categories. An abelian track category can be thought of as a linear extension of its homotopy category. Such an extension is classified by an element of the third Baues-Wirsching cohomology group. This description was used by Baues and collaborators to make computations in the Adams spectral sequence and to understand the structure of stable secondary homotopy operations. In this talk we extend this program one dimension up, via a Baues-Wirsching type cohomology of track categories and notions of two-track category and two-track extension. This is joint work with David Blanc. (Received August 29, 2009)