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**Heinz H. Bauschke, Russell Luke and Hung M. Phan\***, hungm.phan@yahoo.com, and  
**Xianfu Wang.** *Restricted Normal Cones: Basic Properties and Applications.*

In this talk, we introduce the restricted normal cone, which is a novel generalization of the Mordukhovich (also known as basic or limiting) normal cone. Basic properties are presented. In the case of subspaces, we make a connection to the Friedrichs angle between the subspaces. Restricted normal cones are useful in extending the work by Lewis, Luke and Malick on the method of alternating projections for two (possibly nonconvex) sets. An application to the problem of sparse optimization will also be presented. (Received August 15, 2012)