1067-14-1075 **Sándor J Kovács*** (skovacs@uw.edu), University of Washington, Department of Mathematics, Box 354350, Padelford Hall C-138, Seattle, WA 98103. *DB pairs and vanishing theorems.*

The class of rational singularities is one of the most important classes of singularities. Their essence lies in the fact that their cohomological behavior is very similar to that of smooth points. Vanishing theorems can be easily extended to varieties with rational singularities. Establishing that a certain class of singularities is rational opens the door to using very powerful tools on varieties with those singularities.

Du Bois singularities are probably somewhat harder to appreciate at first, but they are equally important. Their main importance comes from two facts: They are not too far from rational singularities, that is, they share many of their properties, but the class of Du Bois singularities is more inclusive than that of rational singularities; log canonical singularities are Du Bois, but not necessarily rational. The class of Du Bois singularities is also more stable under degeneration.

Recently there has been an effort to extend the notion of rational singularities to pairs. There are at least two approaches; Schwede-Takagi and Kollár-Kovács.

In this talk I will report on recent work to extend the definition of Du Bois singularities to pairs in the spirit of the latter approach to rational pairs. (Received September 18, 2010)