Ivan Penkov

Title : Primitive ideals of U(sl(infty)),

We describe explicitly the primitive ideals in U(sl(infty)). Somewhat unexpectedly, we show that all such ideals are the annihilators of integrable simple sl(infty)-modules. The only maximal ideal in U(sl(infty) is the augmentation ideal. We also prove a Duflo-type theorem describing primitive ideals as annihilators of highest-weight modules. Not all Borel subalgebras "realize" primitive ideals in this way: the ones that do, are "ideal Borel subalgebras". We also provide an algorithm which computes the primitive ideal of an arbitrary simple highest weight module. At the end (if time permits), I will discuss the primitive ideals of bounded simple weight sl(infty)-modules.This talk is based on several joint papers with Alexey Petukhov.