1054-81-20 **Brant Jones** and **Anne Schilling*** (`anne@math.ucdavis.edu`), Department of Mathematics, University of California, One Shields Ave, Davis, CA 95616. *Affine crystals for type E.* Preliminary report.

Let $\mathfrak{g}$ be an affine Kac–Moody algebra and $U'_q(\mathfrak{g})$ be the associated quantized affine algebra. Kirillov–Reshetikhin modules are finite dimensional $U'_q(\mathfrak{g})$-modules labeled by a node r of the Dynkin diagram together with a nonnegative integer s. It was recently proven in collaboration with Masato Okado that all Kirillov–Reshetikhin modules for nonexceptional types have a crystal basis.

In this talk, we focus on type E, for which Chari has given the decomposition of Kirillov–Reshetikhin modules into classical highest-weight modules. We extend the classical crystals for most of these modules to give an explicit combinatorial realization of the Kirillov–Reshetikhin crystals. This realization is based on exploiting affine Dynkin diagram automorphisms.

This is joint work with Brant Jones. (Received July 14, 2009)