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**Kailash C Misra\*** ([misra@math.ncsu.edu](mailto:misra@math.ncsu.edu)), Department of Mathematics, North Carolina State University, Raleigh, NC 27695-8205. *Perfect Crystals for  $U_q(G_2^{(1)})$ .*

The crystals associated with integrable representations of quantum affine algebras provide an useful tool to study its combinatorics. To this end explicit realizations of crystals are essential. In 1990's it was shown that the crystal for an integrable highest weight representation of a quantum affine algebra can be realized as elements in the semi-infinite tensor product of a suitable perfect crystal. In this talk we will discuss a recently constructed coherent family of perfect crystals for the quantum affine algebra  $U_q(G_2^{(1)})$ . This is a joint work with M. Mohamad and M. Okado. (Received July 27, 2010)