1125-17-1800 **John M. Dusel*** (jdusel@whittier.edu), Department of Mathematics, Whittier College, 13406 Philadelphia St., Whittier, CA 90608. *Crystal folding.*

We introduce a procedure to fold a crystal B of simply-laced Cartan type $\mathcal{C}$ by the action of an automorphism σ, which produces a crystal B_σ for the folded Langlands dual datum $\mathcal{C}^{\sigma\vee}$. This construction preserves normality and the Weyl group action, and is compatible with Kashiwara's tensor product rule.

Combinatorial properties of the folding of $B(\infty)$ reflect the structure of subalgebra of the quantum group $U_q^-(\mathcal{C})$. In particular, this subalgebra admits a $U_q^-(\mathcal{C}^{\sigma\vee})$-module structure via Berenstein and Greenstein's machinery of quantum folding, which is encoded by the $\mathcal{C}^{\sigma\vee}$-crystal structure of $B(\infty)_\sigma$. We find that $B(\infty)_\sigma$ is generated by a *set* of highest-weight elements over the monoid of lowering operators. The highest-weight set of $B(\infty)_\sigma$ identifies with a monoid admitting a unique finite $\subset$-minimal generating set, in finite type, and a subset of the Weyl group called the balanced parabolic quotient is in one-to-one correspondence with this generating set in type D. (Received September 19, 2016)