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Soichi Okada* (okada@math.nagoya-u.ac.jp). *Birational rowmotion and Coxeter-motion on minuscule posets.*

Birational rowmotion is a discrete dynamical system associated with a finite poset P , which provides a birational lift of combinatorial rowmotion (also called Fon-der-Flaass action and other names) acting on order ideals of P . If P is a $p \times q$ rectangle, i.e. a product of two chains, it is shown that the birational rowmotion map has order $p + q$ (Grinberg–Roby) and that it exhibits file homomesy phenomenon (Musiker–Roby). In this talk we extend their results to birational rowmotion on minuscule posets. One of our results asserts that, if P is a minuscule poset arising from a simple Lie algebra \mathfrak{g} , then the birational rowmotion map on P has order equal to the Coxeter number of \mathfrak{g} . And we can use ultradiscretization to deduce Rush–Wang’s homomesy results for combinatorial rowmotion on minuscule posets. Furthermore, as a generalization of promotion on rectangles, we introduce birational Coxeter-motion on minuscule posets, and study their properties. (Received January 06, 2019)