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Emily Norton* (emn37@case.edu), Department of Mathematics, 10900 Euclid Avenue-Yost Hall Room 231, Cleveland, OH 44106. *Finite-dimensional representations of the rational Cherednik algebra of H_4* . Preliminary report.

Rational Cherednik algebras (at $t=1$) only admit finite-dimensional representations at special parameters (related to the degrees of the fundamental invariants, and more precisely to the elliptic numbers, of the underlying Coxeter group). Outside of types A, H3, and the dihedral groups, the classification of their finite-dimensional irreducible representations remains an open problem. I will describe the finite-dimensional irreducible representations of the rational Cherednik algebra of H_4 and give their lowest weights, dimensions, and characters. (Received February 08, 2014)