

1147-55-266

**Agnes Beaudry\*** ([agnes.beaudry@colorado.edu](mailto:agnes.beaudry@colorado.edu)), Campus Box 395, Boulder, CO 80309-0001, and **Irina Bobkova**, **Michael Hill** and **Vesna Stojanoska**. *Invertible  $K(2)$ -Local  $E$ -Modules in  $C_4$ -Spectra*.

We compute the Picard group of the category of  $K(2)$ -local module spectra over the ring spectrum  $E^{hC_4}$ , where  $E$  is a height 2 Morava  $E$ -theory and  $C_4$  is a subgroup of the associated Morava stabilizer group. This group can be identified with the Picard group of  $K(2)$ -local  $E$ -modules in genuine  $C_4$ -spectra. We show that in addition to a cyclic subgroup of order 32 generated by  $E \wedge S^1$  the Picard group contains a subgroup of order 2 generated by  $E \wedge S^{7+\sigma}$ , where  $\sigma$  is the sign representation of the group  $C_4$ . In the process, we completely compute the  $RO(C_4)$ -graded Mackey functor homotopy fixed point spectral sequence for the  $C_4$ -spectrum  $E$ . (Received January 15, 2019)