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**Prasit Bhattacharya\*** (pb9wh@virginia.edu). *Revisiting homotopy associative structures of Moore spectra.*

The Moore spectrum  $M_p(i)$  is nothing but the cofiber of  $p^i$ -map on the sphere spectrum, yet the nice multiplicative properties of the sphere spectrum are not carried through to  $M_p(i)$ . In fact, it is conjectural that  $M_p(i)$  is not an  $A_\infty$  ring spectrum. What can be the potential obstructions? In this talk, I will outline a method that will indicate that the obstructions to higher associativity of  $M_p(i)$  could well be among the familiar Greek letter elements in the ‘image of  $J$ ’ part of the stable homotopy groups of spheres. This work is joint with N.Kitchloo. (Received September 16, 2019)