## 1078-55-365 Chad Giusti (giusti@willamette.edu), Paolo Salvatore (salvator@axp.mat.uniroma2.it) and Dev Sinha\* (dps@uoregon.edu). Cohomology rings of symmetric groups.

We present the cohomology rings of symmetric groups, relying heavily on a Hopf ring structure on their direct sum. We start with the mod-two calculation, then move to the two-local calculation, and then give progress at general primes. Two main ingredients throughout are the geometrically defined Fox-Neuwirth cell complex and the algebraic notion of a divided-powers Hopf ring. (Received December 13, 2011)