Abstract:

We will explain how an appropriate infinity-algebra structure on cohomology allows for an explicit presentation of a deformation problem. This expands on the better-known mantra that deformations and obstructions arise from first and second degree cohomology, respectively. Deformations of group representations will be featured, in preparation for an application. The application will be drawn from joint work with Preston Wake, where we answer a question of Barry Mazur about congruences between Eisenstein series and cusp forms in terms of Massey products in Galois cohomology.