

Non-reductive good moduli spaces

Friday, 22 July 2022 16:00 (1 hour)

I will present a theory of non-reductive good moduli spaces (NRGMS) generalizing the non-reductive geometric invariant theory (NRGIT) introduced by Bérczi, Doran, Hawes, and Kirwan. In particular, the basic results of NRGIT hold for NRGMS and we obtain a framework for affine and projective NRGIT. Even though we are in a non-reductive situation, reductive local structure theorems play a significant role.

I will also introduce topological moduli spaces (TMS) and “positive” non-reductive good moduli spaces (N+GMS) which is a more restrictive notion but also contains the theory of BDHK. For N+GMS there are very powerful local structure theorems and both GMS and N+GMS can be characterized among the TMS. Finally, there is a conjectural existence theorem for N+GMS generalizing the existence theorem of Alper, Halpern-Leistner, and Heinloth.

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