

Compatible transfer systems for $C_{p^r q^s}$

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Abstract

Transfer systems are mathematical objects that encode transfers within algebras over specific types of structures known as equivariant operads. These systems allow us to employ combinatorial tools to investigate equivariant homotopy theory. One significant aspect is the study of compatible pairs of transfer systems, which correspond to multiplicative structures that align with an underlying additive structure.

In this talk, I will introduce G -transfer systems, which are transfer systems defined for a given group G . I will discuss the fundamental concepts of saturation and pairs of compatible transfer systems. Additionally, I will present joint work with Kristen Mazur, Angelica Osorno, Constanze Roitzheim, Rekha Santhanam, and Danika Van Niel on the compatibility of $C_{p^r q^s}$ -transfer systems, where $C_{p^r q^s}$ denotes the cyclic group of order $p^r q^s$. Specifically, we will outline a criterion for determining when transfer systems only form trivially compatible pairs.

By delving into these topics, we aim to shed light on the intricate relationships between transfer systems and their compatibility, providing valuable insights for further exploration in the field of equivariant homotopy theory.

Keywords: algebra, transfer system, equivariant operad, equivariant homotopy.