

Study of representation spaces from the viewpoint of algebraic/differential topology

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The theory of representation spaces of finite groups was developed not only from the viewpoint of algebra but also from the algebraic/differential topology perspective.

Let G be a finite group. The classification problem of real G -representation spaces has been considered so far up to G -diffeomorphism, G -homeomorphism, G -homotopy equivalence, or the Smith equivalence for smooth actions of G on spheres [1, 2].

The Burnside ring $\Omega(G)$ of G was interpreted in terms of proper continuous G -maps defined on real G -representation spaces ([1]) and the Dress induction theory was explicitly/implicitly applied to the classification problem above.

In this talk, we recall some classical results of the field, and we also discuss new results on the Smith equivalence of real G -representation spaces [3, 4].

References

- [1] T. tom Dieck; *Transformation Groups*, Walter de Gruyter, Berlin-New York, 1987.
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