

# Algorithmic computation of groups of equivariant homotopy classes of maps

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I will outline an algorithm for the computation of the set  $[X, Y]^A$  of  $G$ -equivariant homotopy classes of maps  $X \rightarrow Y$  extending a given map  $A \rightarrow Y$  defined on a subspace  $A \subseteq X$  (simply connected  $Y$ , finite  $G$ ); this algorithm works under a certain “stability assumption”, defined by the requirement  $\dim X^H \leq 2 \cdot \text{conn } Y^H$  on the dimension and the connectivity of the fixed point sets for all subgroups  $H \leq G$ .

(When the stability assumption is dropped – but  $Y$  is still assumed simply connected – it is already impossible to decide if  $[X, Y]^A$  is non-empty; this is a result of our previous work that I will also try to briefly summarize.)