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**Scott Crass\*** ([scrass@csulb.edu](mailto:scrass@csulb.edu)), Math Dept, CSULB, Long Beach, CA 90840-1001. *Rational maps with the symmetries of complex reflection groups*. Preliminary report.

For certain reflection group actions there are rational maps—called equivariants—that respect the action and, as dynamical systems, behave in tractable ways. The crucial properties that such maps possess are:

1. preservation of the hyperplane arrangement—indeed, of each individual hyperplane
2. multiply critical on each reflection hyperplane with the multiplicity given by the order of the hyperplane’s pointwise stabilizer.

In light of these empirical results we have the conjecture that every complex reflection group admits such a (possibly unique) equivariant. The known cases are:

- symmetric groups  $S_n$  acting on  $\mathbf{C}^{n-1}$  ( $n \geq 3$ )
- double cover of the icosahedral group
- double cover of Klein’s group of order 168
- 6-fold cover of Valentiner’s group (isomorphic to the alternating group  $A_6$ ).

Although numerological evidence is consistent with the conjecture, a proof is unknown. If the conjecture happens to be false, the question of which groups admit the special map would remain. (Received September 22, 2006)