1070-14-324 **Alon Levy*** (`levy@math.columbia.edu`). *The Rationality of the Space of Morphisms on* $\mathbb{P}^1$.

We investigate families of rational maps, collected in the moduli spaces Rat_d of morphisms on $\mathbb{P}^1$. The space Rat_d has a quotient by the conjugation action of $PGL(2)$, which we denote M_d. We prove that this quotient has nice geometric properties, in the sense of geometric invariant theory, and that the space M_d is rational for each d. (Received February 15, 2011)