On the homotopy of the space of maps to a toric variety

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Let $X$ and $Y$ be real algebraic varieties. Then a map $f : X \to Y$ is called an algebraic map (or regular map) if it is represented by polynomials and we denote by $\text{Alg}(X,Y)$ (resp. $\text{Map}(X,Y)$) the space of all algebraic maps (resp. continuous maps) from $X$ to $Y$. We shall consider what extent the space $\text{Alg}(X,Y)$ approximates the space $\text{Map}(X,Y)$ in the homotopy category (so called the Atiyah-Jones type theorem, eg. [4]). Until now A. Kozlowski and the author studied this problem for $(X,Y) = (\mathbb{R}P^m, \mathbb{K}P^n)$ ($\mathbb{K} = \mathbb{R}$ or $\mathbb{C}$). (eg. [1], [3]). In this talk we shall study this problem when $X = \mathbb{R}P^m$ and $Y$ is a projective smooth toric variety. The talk is based on the joint work with A. Kozlowski and M. Ohno [2].

References


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