

عنوان مقاله:

The category of generalized crossed modules

محل انتشار:

مجله نظریه رسته ها و ساختارهای کلی جبری با کاربردها، دوره 10، شماره 1 (سال: 1398)

تعداد صفحات اصل مقاله: 16

نویسندگان:

Mahdieh Yavari - *Department of Mathematics, Shahid Beheshti University, G.C., Tehran 19139, Iran*

Alireza Salemkar - *Department of Mathematics, Shahid Beheshti University, G.C., Tehran 19139, Iran*

خلاصه مقاله:

In the definition of a crossed module (T, G, ρ) , the actions of the group T and G on themselves are given by conjugation. In this paper, we consider these actions to be arbitrary and thus generalize the concept of ordinary crossed module. Therefore, we get the category $\{\mathbf{GCM}\}$, of all generalized crossed modules and generalized crossed module morphisms between them, and investigate some of its categorical properties. In particular, we study the relations between epimorphisms and the surjective morphisms, and thus generalize the corresponding results of the category of (ordinary) crossed modules. By generalizing the conjugation action, we can find out what is the superiority of the conjugation to other actions. Also, we can find out a generalized crossed module with which other actions (other than the conjugation) has the properties same as a crossed module.

کلمات کلیدی:

Group action, crossed module, generalized crossed module, category, monomorphism, epimorphism

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