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## Group theoretic approach to calculate the $\xi$ - pseudo Dirac operator and its spectrum on $AdS^2$

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### Abstract

$\xi$ -pseudo Dirac operator has recently been constructed with the help of  $\xi$ -pseudo modules and appropriate projectors on  $AdS^2$  space. In this article, this operator will be constructed with the help of group theory. For this purpose, firstly, the spin structure of  $AdS^2$  space is built and then, with the help of relations related to right and left actions and Maurer-Cartan forms,  $\xi$ - pseudo Dirac operator and then its scalar form in, instanton and non-instanton mode is introduced will be and at the end its spectrum is also calculated in different states of this  $\xi$ -pseudo operator.

**Keywords:**  $\xi$  - pseudo Dirac operator,  $\xi$  - pseudo chirality operator, spinor bundle, gauge fields, spectrum

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For full article, refer to the Persian section