## Accepted Manuscript

Research paper

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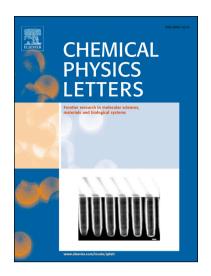
PII: S0009-2614(18)30415-9

DOI: https://doi.org/10.1016/j.cplett.2018.05.042

Reference: CPLETT 35658

To appear in: Chemical Physics Letters

Received Date: 25 March 2018 Revised Date: 18 May 2018 Accepted Date: 19 May 2018



Please cite this article as: Y. Mao, J. Ben, J. Yuan, J. Zhong, Tuning the electronic property of two dimensional SiSe monolayer by in-plane strain, *Chemical Physics Letters* (2018), doi: https://doi.org/10.1016/j.cplett. 2018.05.042

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Tuning the electronic property of two dimensional SiSe monolayer by in-plane strain

Yuliang Mao, † Jiao Ben, Jianmei Yuan Jianxin Zhong

Hunan Key Laboratory for Micro-Nano Energy Materials and Devices, School of Physics and Optoelectronic,

Xiangtan University, Hunan 411105, China.

Hunan Key Laboratory for Computation and Simulation in Science and Engineering, School of Mathematics

and Computational Science, Xiangtan University, Hunan 411105, China.

† Corresponding authors, E-mail address: ylmao@xtu.edu.cn

**Abstract** 

Using first-principles calculations, the electronic properties of SiSe monolayer under in-plane

strains are studied. It is found that the band gap of SiSe monolayer is increased linearly under the

tensile strains along armchair direction. The tensile strain of 7% along zigzag direction makes a

transition of band gap from indirect to direct. Under the biaxial compressive strains from 0% to -5%,

we found that the band gap of SiSe monolayer is decreased continuously. Moreover, the SiSe

monolayer exhibits metallic behavior under the -5% biaxial compressive strain.

**Keywords:** monolayer SiSe; electronic property; first-principles; in-plane strain

1

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