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New approach to all-angle-negative-refraction in two-dimensional photonic crystals<sup>1</sup> Y. J. HUANG, W. T. LU, S. SRIDHAR, Electronic Materials Research Institute and Department of Physics, Northeastern University — We show that with appropriate surface grating, all-angle-negative-refraction is possible in other frequency windows that were not realized before in two-dimensional photonic crystals. Previous flat lens using photonic crystals requires  $u+v \ll d$ . Our approach can be used to design flat lens with u+v>>d, thus being able to image large and/or far away objects. Our results are confirmed by FDTD simulations.

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