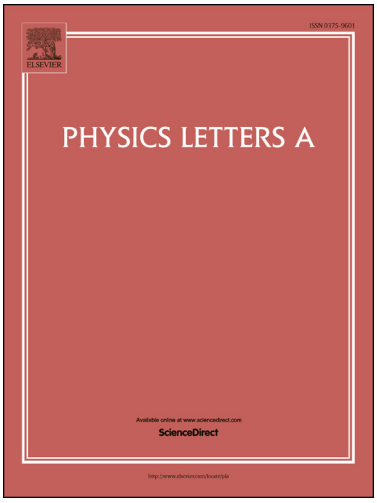
Accepted Manuscript



Highly Selective Surface-Wave Resonators for Terahertz Frequency Range Formed by Metallic Bragg Gratings

N.S. Ginzburg, A.M. Malkin, A.S. Sergeev, S.E. Fil'chenkov, V.Yu. Zaslavsky

PII: S0375-9601(18)30101-4
DOI: https://doi.org/10.1016/j.physleta.2018.01.029
Reference: PLA 24937

To appear in: *Physics Letters A*

Received date: 25 October 2017
Revised date: 19 January 2018
Accepted date: 24 January 2018

Please cite this article in press as: N.S. Ginzburg et al., Highly Selective Surface-Wave Resonators for Terahertz Frequency Range Formed by Metallic Bragg Gratings, *Phys. Lett. A* (2018), https://doi.org/10.1016/j.physleta.2018.01.029

Highlights

- Formation of surface modes confined at a finite metallic grating is described.
- Grating can form a high-quality and highly selective Bragg resonator for THz waves.
- Formulas for the spectrum of such resonator including Q-factors were obtained.
- Q-factor of the fundamental mode has an optimum with respect to corrugation depth.
- In THz range, optimum depth values justify the shallow corrugation approach used.