

Accepted Manuscript

Nonlinear Surface Waves in Photonic HyperCrystals

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PII: S0375-9601(17)30537-6
DOI: <http://dx.doi.org/10.1016/j.physleta.2017.05.060>
Reference: PLA 24542

To appear in: *Physics Letters A*

Received date: 17 February 2017
Revised date: 4 May 2017
Accepted date: 29 May 2017

Please cite this article in press as: M.Z. Ali, Nonlinear Surface Waves in Photonic HyperCrystals, *Phys. Lett. A* (2017), <http://dx.doi.org/10.1016/j.physleta.2017.05.060>

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Highlights

- Photonic hypercrystals combine the properties of photonic crystals and hyperbolic metamaterials.
- The dispersion relation for the TM polarized nonlinear surface waves in photonic hypercrystals is derived.
- These nonlinear surface waves belong to frequency region where the linear surface waves do not exist.
- It is found that the nonlinearity can be used to engineer the group velocity of the resulting surface wave.

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