

# The Limiting Absorption Principle for periodic Schrödinger operators

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We present a new Limiting Absorption Principle for Schrödinger operators  $-\Delta + V(x)$  with periodic potentials  $V \in L^\infty(\mathbb{R}^n)$ . We will sketch its proof which is based on Floquet-Bloch theory and a careful analysis of oscillatory integrals over the associated Fermi surfaces (or isoenergetic surfaces). Applications to nonlinear Helmholtz equations will be provided.

## References

- [1] R. Mandel, “The Limiting Absorption Principle for Periodic Differential Operators and Applications to Nonlinear Helmholtz Equations”, *Commun. Math. Phys.* **368** (2019), no. 2, pp. 799–842.