

References for Diffraction Days lecture, St Petersburg, 8 June 2002

Michael Berry

## Deconstructing shadows: Sommerfeld's half-plane and beyond

References are listed by topic; numbers refer to my publications list; all my papers are available on

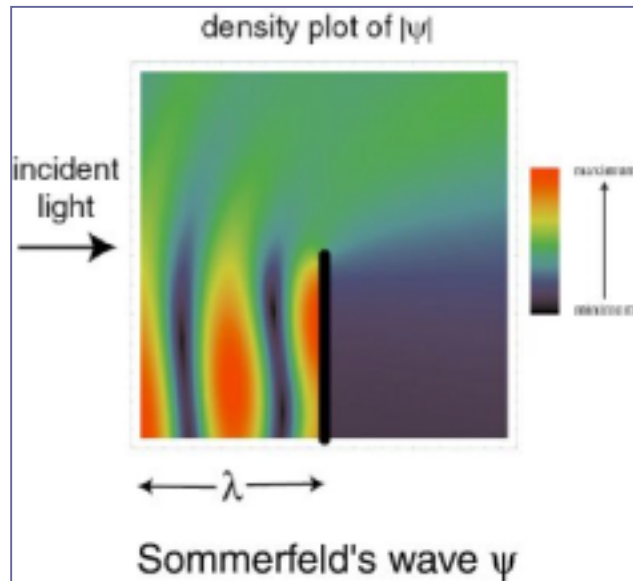
[http://www.phy.bris.ac.uk/staff/berry\\_mv.html](http://www.phy.bris.ac.uk/staff/berry_mv.html)

### • Sommerfeld's paper, computation of his field, and its energy flow

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### • Phase singularities

34 Nye, J F, & Berry, M V, 1974 'Dislocations in wave trains' *Proc.Roy.Soc.Lond.*, **A336** 165-90

### • Knotted phase singularities

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333 Berry, M V and Dennis, M R, 2001 'Knotting and unknotting of phase singularities: Helmholtz waves, paraxial waves and waves in 2+1 spacetime', *J.Phys.A* **34** 8877-8888

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### • Curlicues (discrete Cornu spirals)

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- **Talbot effect**

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274 Berry, M V and Klein, S, 1996 *J.Mod.Opt* **43**, 2139 - 2164, 'Integer, fractional and fractal Talbot effects'

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329 Berry, M V, Marzoli, I and Schleich, W, 2001 'Quantum carpets, carpets of light' *Physics World* (June), 39-44

- **Topological interpretation of edge diffraction**

Hannay, J H 1995 'Path-linking interpretation of Kirchhoff diffraction' *Proc. Roy. Soc. Lond* **A450** 51-65

Hannay, J H 2001 'Path-linking interpretation of Kirchhoff diffraction: a summary' *Phil. Trans. Roy. Soc. Lond.* **A359** 1473-1478

- **Edge diffraction and the Aharonov-Bohm effect**

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- **Unstable lasers**

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336 Berry, M V, 2001 'Fractal modes of unstable lasers with polygonal and circular mirrors' *Optics Communications* **200** 321-330

Berry, M V 2002 'Mode degeneracies and the Petermann excess-noise factor for unstable lasers' *J. Modern Optics*, in press

- **Zeros of diffraction catastrophes (canonical integrals)**

79 Berry, M V, Nye, F F, & Wright, F J 1979 'The elliptic umbilic diffraction catastrophe' *Phil Trans. Roy. Soc* **A291** 453-84

also the forthcoming Digital Library of Mathematical Functions: <http://dlmf.nist.gov>