Optimal construction of superoscillations

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On a finite interval (of arbitrarily large length), bandlimited signals can possibly oscillate at a rate much higher than its bandlimit. This phenomenon is called superoscillations. Superoscillatory signals always require extremely large amplitude and energy outside the oscillating region, so the construction of such signals turns out to be a numerically hard problem. In this talk, I will introduce some known methods for generating superoscillations and a new method based on an optimization problem.