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Ingrid Daubechies*, Duke University, Durham, NC 27708. *Mathematical Frameworks for Signal and Image Analysis. Lecture I: Multiresolution analysis, wavelets and beyond.* Preliminary report.

We will visit several examples in signal and image analysis, every time building an appropriate mathematical framework, ranging from functional and harmonic analysis to differential geometry. Although there will be cross-referencing, the lectures will be sufficiently independent that each can stand on its own, so that JMM participants could follow any of the lectures even if they missed one or more preceding it.

Lecture I: A review of some existing techniques in mathematics underlying image analysis, as well as some very recent developments. (Received September 3, 2019)