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Neural Stimulation via Fractal Electrodes¹ RICK MONTGOMERY, WILLIAM WATTERSON, IAN PILGRIM, Department of Physics, University of Oregon, KURTIS FAIRLEY, DARREN JOHNSON, Department of Chemistry, University of Oregon, HEINER LINKE, The Nanometer Structure Consortium at Lund University, Sweden, RICHARD TAYLOR, Department of Physics, University of Oregon — A host of physical phenomena exhibit fractal geometry and benefit from its enhanced properties, which can include large surface area-to-volume ratios and high network connectivity. These properties are exploited in a fractal electrode designed for neural stimulation and recording. Presented are electric field studies of a fractal electrode with an emphasis on applications in retinal implants.

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