Generating Non-Rayleigh Speckles with Tailored Intensity Statistics

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We experimentally generate speckle patterns with non-Rayleigh statistics using a phase-only spatial light modulator. By introducing high order correlations to the input light fields we redistribute the intensity among the speckle grains, while preserving the granular structure of the pattern. Our method is versatile and allows for generating speckle patterns with enhanced or diminished contrast in a controlled manner.