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We introduce image restoration algorithms based on the Mumford-Shah model and nonlocal image information. The standard Ambrosio-Tortorelli and Shah models use local neighborhood information, which is sufficient to denoise smooth regions with sharp boundaries. However, textures are not local in nature and require semi-local/non-local information to be denoised efficiently. Inspired from recent work (Buades, Coll, Morel, Gilboa, Osher), we extend the standard models of Ambrosio-Tortorelli and Shah approximations to Mumford-Shah functionals to work with nonlocal information, for better restoration of fine structures and textures. We present several applications of the proposed nonlocal MS regularizers in image processing such as color image denoising, color image deblurring in the presence of Gaussian or impulse noise, color image inpainting, and color image super-resolution. In all the applications, the proposed nonlocal regularizers produce superior results over the local ones, especially in image inpainting with large missing regions. Experimental results and comparisons between the proposed nonlocal methods and the local ones are shown. (Received September 21, 2009)