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Flux cancellation in the solar photosphere: observational signatures derived from 3D MHD simulations

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Abstract. We study examples of the flux cancellation from the MURaM mixed polarity run and examine whether some of the features of the process can be detected in spectropolarimetric observations. We show that the linear polarization signal increases as the retracting Ω loops pass through the Fe I 630 nm lines formation height. At Hinode/SP spatial resolution, however, the signal may be smeared out and lost in the noise.