

DOUBLED FIELD APPROACH TO YANG—MILLS  
THEORY REQUIRES NON-LOCALITY

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S u m m a r y

Doubling the Yang—Mills (YM) field with its dual partner, we apply the pattern which has been found to construct a “duality-symmetric” gravity with matter to the “duality-symmetric” YM theory in five space-time dimensions. Constructing the action, we conclude that dualizing a non-Abelian theory requires non-locality. We analyze the symmetries of the theory and equations of motion. The extension to the supersymmetric model is also demonstrated.