

# FPS approach and the one-dimensional supersymmetric model with PBGS

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We apply the approach of S. Ferrara, M. Porrati and A. Sagnotti ( " *$N = 2$  Born-Infeld Attractors*", JHEP 1412 (2014) 065) to the one dimensional system described by the  $N = 2$ ,  $d = 1$  supersymmetric action for two particles in which one of the  $N = 1$  supersymmetries is spontaneously broken. Within the approach of nonlinear realizations, we reconsider the system in the basis where only one superfield has the Goldstone nature while the second superfield can be treated as a matter one. We establish the transformations relating the two selected FPS cases with our more general one. It shows that the only difference between the two FPS cases lies in the different choice of the actions, while the supermultiplets specified by the FPS constraints are really the same. We also construct the most general action for the system of two  $N = 1$  superfields possessing one additional hidden spontaneously broken  $N = 1$  supersymmetry. This superfield action contains two arbitrary functions and reduces to the FPS actions upon specification of these functions. Nevertheless, we find that the explicit expressions of these functions corresponding to FPS actions is not very informative and gives no explanation why the FPS cases are selected.