Parabolic target space interior-point algorithm for monotone linear complementarity problems

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We introduce a parabolic target space interior-point algorithm for solving monotone linear complementarity problems. Compared to the classical interior-point algorithms, it works in a lifted space and it is based on a parabolic barrier function. Furthermore, we investigate two types of search directions, namely the universal tangent direction and the auto-correcting version one. We show that the theoretical complexity of the method coincides with the best known ones for interior-point algorithms.