A family of adapted complexifications for $SL_2(\mathbb{R})$

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Abstract. Let G be a non-compact, real semisimple Lie group. We consider maximal complexifications of G which are adapted to a distinguished one-parameter family of naturally reductive, left-invariant metrics. In the case of $G = SL_2(\mathbb{R})$ their realization as equivariant Riemann domains over $G^{\mathbb{C}} = SL_2(\mathbb{C})$ is carried out and their complex-geometric properties are investigated. One obtains new examples of non-univalent, non-Stein, maximal adapted complexifications.