

Ambiguities of the Seiberg-Witten Map in the Presence of Matter Field

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Abstract: The ambiguities of the Seiberg-Witten map for gauge field coupled with fermionic matter are discussed. We find that only part of the ambiguities can be absorbed by gauge transformation and/or field redefinition and thus are negligible. The existence of matter field makes some other part of the ambiguities difficult to be absorbed by gauge transformation or field redefinition.

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Key words: gauge field, matter field, Seiberg-Witten map, ambiguity

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