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Invariants of links and 3-manifolds obtained from Hopf algebras. (English) Zbl 0882.57002
J. Lond. Math. Soc., II. Ser. 54, No. 3, 594-624 (1996).

N. Y. Reshetikhin and *V. G. Turaev* [*Commun. Math. Phys.* 127, No. 1, 1-26 (1990; [Zbl 0768.57003](#))] and *S. Majid* [*Int. J. Mod. Phys. A* 5, No. 1, 1-91 (1990; [Zbl 0709.17009](#))] used representations of a quasitriangular ribbon Hopf algebra to construct invariants of colored framed links. Then taking linear combinations of them, invariants for 3-manifolds were obtained [*N. Y. Reshetikhin* and *V. G. Turaev*, *Invent. Math.* 103, No. 3, 547-597 (1991; [Zbl 0725.57007](#))]. In this paper under review, the author finds more general sufficient conditions to define invariants of 3-manifolds, using trace functionals rather than representations.

Reviewer: [H.Murakami](#) (Tokyo)

MSC:

57M25 Knots and links in the 3-sphere (MSC2010)
57N10 Topology of general 3-manifolds (MSC2010)

Cited in **6** Reviews
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Keywords:

[link](#); [3-manifold](#); [ribbon Hopf algebra](#); [invariants of links](#); [invariants of 3-manifolds](#); [colored framed links](#); [trace functionals](#)

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