



Asymptotic formulas for curve operators in TQFT

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(Submitted on 5 Jun 2012)

Topological quantum field theories with gauge group SU_2 associate to each surface with marked points Σ and each integer $r > 0$ a vector space $V_r(\Sigma)$ and to each simple closed curve γ in Σ an Hermitian operator T_r^γ acting on that space. We show that the matrix elements of the operators T_r^γ have an asymptotic expansion in orders of $\frac{1}{r}$, and give a formula to compute the first two terms in terms of trace functions, generalizing results of Marché and Paul.

Subjects: **Geometric Topology (math.GT)**

Cite as: [arXiv:1206.0887v1](#) [math.GT]

Submission history

From: Renaud Detcherry [[view email](#)]

[v1] Tue, 5 Jun 2012 11:52:02 GMT (70kb,D)

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