Inverse spectral problem for quantum graphs

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Corrigendum

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The algebraic multiplicity of the eigenvalue $E = 0$ calculated in lemma 1 is in fact equal to $N - M + 2$. One has to take into account that the sums of the amplitudes of all incoming and outgoing waves for every edge are equal, which gives additional $M - 1$ conditions on the amplitudes a_j. Hence the trace formulas (21) and (22) read as follows:

$$u(k) \equiv \delta(k) + \sum_{n=1}^{\infty} (\delta(k - k_n) + \delta(k + k_n)) = -(N - M + 1)\delta(k) + \frac{\mathcal{L}}{\pi} + \frac{1}{2\pi} \sum_{p \in \mathcal{P}} \left(\mathcal{A}_p \, \mathrm{e}^{\mathrm{i}kl(p)} + \mathcal{A}_p^* \, \mathrm{e}^{-\mathrm{i}kl(p)} \right) \tag{21}$$

and

$$\hat{u}(l) \equiv 1 + \sum_{n=1}^{\infty} \left(\mathrm{e}^{-\mathrm{i}k_n l} + \mathrm{e}^{\mathrm{i}k_n l} \right) = -(N - M + 1) + 2\mathcal{L}\delta(l) + \sum_{p \in \mathcal{P}} \left(\mathcal{A}_p \, \delta(l - l(p)) + \mathcal{A}_p^* \, \delta(l + l(p)) \right). \tag{22}$$

This mistake does not affect the rest of the paper.

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