Theorem 1 in the paper is quoted incorrectly from Theorem 1.1 in the reference


In fact in the second part of the statement the assumption in [2, Theorem 1.1] is \( \int_\Sigma |\hat{A}|^2 \leq 8\pi \) and not \( \int_\Sigma |\hat{A}|^2 \leq 4\pi \). Note that the assumption is instead correctly reported to be \( \int_\Sigma |\hat{A}|^2 \leq 8\pi \) in Theorem 2.

The mistake in Theorem 1 is a funny coincidence, because I was made aware by Ruben Jakob that the proof given in [2] of Theorem 1 has a trivial computational mistake (more precisely a factor 2 missing on the left hand side of [2, Equation (7)]): after adjusting the rest of the argument to take into account this factor, we are able to conclude the second part of Theorem 1 with any constant \( C_0 \) smaller than \( 8\pi \) in \( \int_\Sigma |\hat{A}|^2 \leq C_0 \). On the other hand that argument fails precisely at \( C_0 = 8\pi \). We did not realize this at the time: the replacement of \( 8\pi \) with \( 4\pi \) in Theorem 1 is just a mere accident and not an attempt at correcting the error contained in [2]. Moreover, as explained in the errata for [2] (that the reader can find on my website at [Errata-for-reference-[2]]) the statement is still correct with \( C_0 = 8\pi \) (and in fact with any \( C_0 < 4\pi^2 \)) but the argument needs much more sophisticated results than the very elementary ones used in [2].

Many thanks to Ruben Jakob for pointing out the inconsistencies.