Graybody Factors and Infrared Divergences[1] PAUL ANDERSON,
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A method of computing the gray-body factors for static spherically symmetric and
BEC acoustic black holes using a Volterra integral equation is given. The results are
used to investigate infrared divergences in the particle number, two-point function,
point-split stress-energy tensor and density-density correlation function. Infrared
divergences in the particle number and two-point function occur if the gray-body
factor approaches a nonzero constant in the zero frequency limit, as happens for
Schwarzschild-de Sitter black holes and BEC acoustic black holes. However, no in-
frared divergences occur in the point-split stress-energy tensor or the density-density
correlation function.

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