Use a Laurent series to find the indicated residue. $f(z)=\dfrac{e^{-z}}{(z-2)^2}$; Res($f(z)$, 2) [95 中央機械能源 10(a)]

[解] $\text{Res}(f(z), 2)=\dfrac{1}{1!}\dfrac{d}{dz}[(z-2)^2\cdot\dfrac{e^{-z}}{(z-2)^2}]\Big|_{z=2}=\dfrac{d}{dz}[e^{-z}]\Big|_{z=2}=-e^{-z}]\Big|_{z=2}=-e^{-2}$