

$f(z)$

$z_\alpha$



The figure shows a symmetric, bell-shaped curve representing a probability density function  $f(z)$  plotted against  $z$ . The curve is centered at the origin of a grid. A vertical line is drawn at a point labeled  $z_\alpha$  on the horizontal axis, to the right of the center. The area under the curve to the right of this line is shaded in light red, representing the tail probability  $P(Z > z_\alpha)$ .