El mapeo $f(z) = \cos(z)$

con $z = x + iy$ es

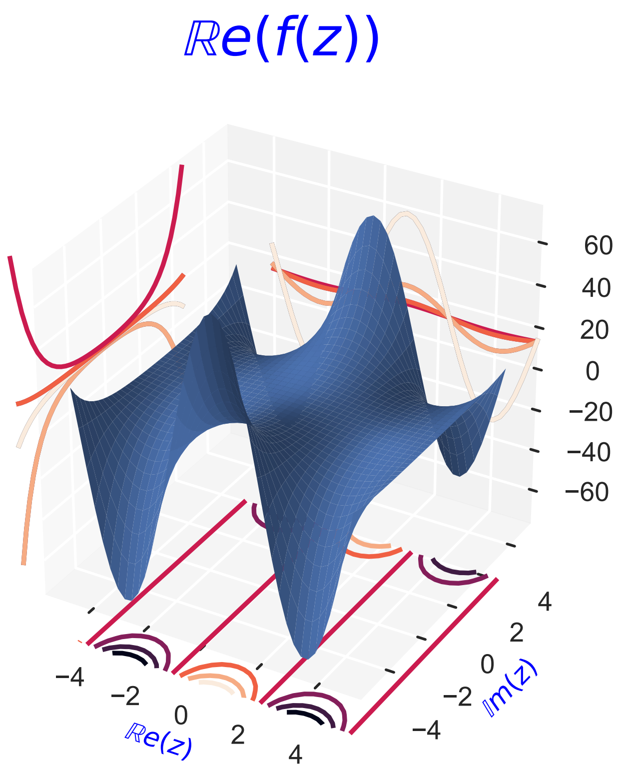
$f(z) = u(x, y) + v(x, y)i$

con

$u(x, y) = \cos(x)\cosh(y)$

$v(x, y) = -\sin(x)\sinh(y)$

$\mathbb{R}e(f(z)) = \cos(x)\cosh(y)$



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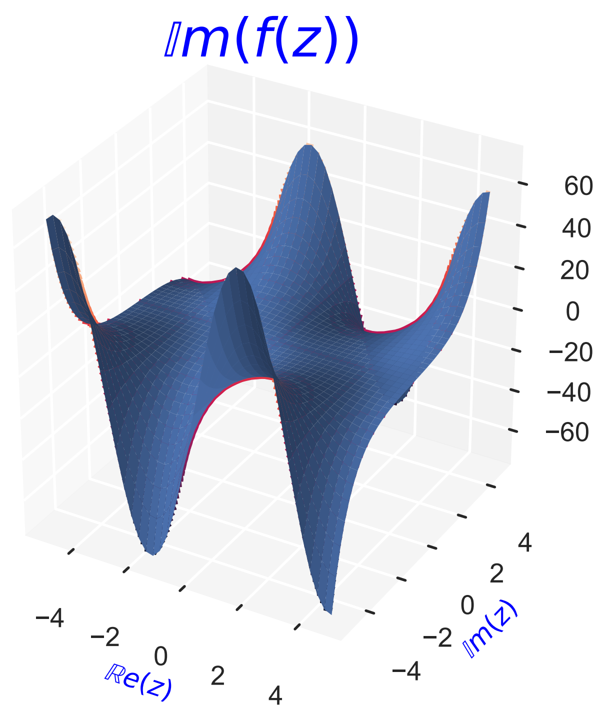

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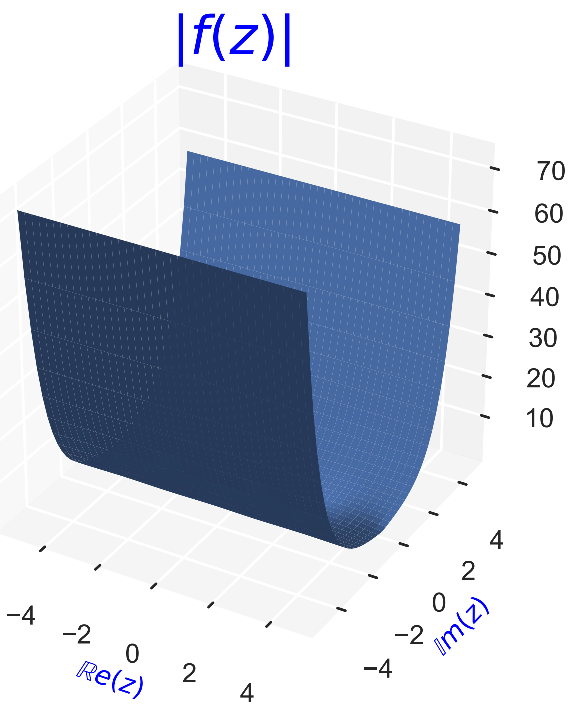
$|f(z)| = \left(\sin^2(x)\sinh^2(y) + \cos^2(x)\cosh^2(y)\right)^{0.5}$



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$\measuredangle f(z) = -\operatorname{atan}(\tan(x)\tanh(y))$