

```

SterProj[{z_, w_}] :=
  Module[{x = Re[z], y = Im[z], u = Re[w], v = Im[w]}, { $\frac{x}{1-v}$ ,  $\frac{y}{1-v}$ ,  $\frac{u}{1-v}$ } // ComplexExpand]
σ[{z_, w_}] := {w, z}

z = Exp[I α] Sin[γ];
w = Exp[I β] Cos[γ];

g[A_] = SterProj@({z, w}) /. α → A;
Show[ParametricPlot3D[g[0], {γ, 0, π/4}, {β, 0, 2 π},
  PlotRange → {{-π, π}, {-π, π}, {-π, π}}, ParametricPlot3D[g[π], {γ, 0, π/4},
  {β, 0, 2 π}, PlotStyle → Blue, PlotRange → {{-π, π}, {-π, π}, {-π, π}}]]

SterProj[{z, w}]

f[Γ_] = SterProj /@ {{z, w}, σ@{z, w}} /. γ → Γ;
ParametricPlot3D[f[π/4], {α, 0, 2 π}, {β, 0, 2 π}]

{g[0], g[π]}

h[B_] = SterProj@({z, w}) /. β → B;
Show[Table[ParametricPlot3D[h[2 π n/10], {γ, 0, π/4},
  {α, 0, 2 π}, PlotRange → {{-π, π}, {-π, π}, {-π, π}}], {n, 1, 10}]]

g[A_] = SterProj@{z, w} /. α → A;
Show[Table[ParametricPlot3D[g[2 π n/4], {γ, 0, π/4},
  {β, 0, 2 π}, PlotRange → {{-π, π}, {-π, π}, {-π, π}}], {n, 1, 4}]]

```