$$S_1 = \frac{\varphi \underset{2}{+} i\psi}{\varphi\overset{*}{\varphi} = 1 = \psi\overset{*}{\psi}: \quad \varphi\overset{*}{\psi} = 0}$$

$$\varphi|\psi \begin{array}{c|c} s\mathfrak{c}_\vartheta & s\mathfrak{s}_\vartheta \\ \hline -t\mathfrak{s}_\vartheta & t\mathfrak{c}_\vartheta \end{array} = \underbrace{s\varphi\mathfrak{c}_\vartheta - t\psi\mathfrak{s}_\vartheta}_{} \, | \, \underbrace{s\varphi\mathfrak{s}_\vartheta + t\psi\mathfrak{c}_\vartheta}_{}$$

$$= \underbrace{s\varphi\mathfrak{c}_\vartheta - t\psi\mathfrak{s}_\vartheta}_{} + i\,\underbrace{s\varphi\mathfrak{s}_\vartheta + t\psi\mathfrak{c}_\vartheta}_{} = \underbrace{s\varphi + it\psi}_{}\,\mathfrak{e}^{\vartheta i}$$

$$\underbrace{s\varphi\mathfrak{c}_\vartheta - t\psi\mathfrak{s}_\vartheta}_{} \overbrace{s\varphi\mathfrak{c}_\vartheta - t\psi\mathfrak{s}_\vartheta}^{*} = s^2$$

$$\underbrace{s\varphi\mathfrak{s}_\vartheta + t\psi\mathfrak{c}_\vartheta}_{} \overbrace{s\varphi\mathfrak{s}_\vartheta + t\psi\mathfrak{c}_\vartheta}^{*} = t^2$$

$$\sigma \in \mathbb{S}^{n-1} \ni \tau \Longrightarrow s\,\sigma_\vartheta | t\,\tau_\vartheta \in S_1$$

$$\sigma_\vartheta | \tau_\vartheta = \sigma|\tau \begin{array}{c|c} \mathfrak{c}_\vartheta & \mathfrak{s}_\vartheta \\ \hline -\mathfrak{s}_\vartheta & \mathfrak{c}_\vartheta \end{array} = \underbrace{\sigma\mathfrak{c}_\vartheta - \tau\mathfrak{s}_\vartheta}_{} \, | \, \underbrace{\sigma\mathfrak{s}_\vartheta + \tau\mathfrak{c}_\vartheta}_{}$$

$$\sigma_\vartheta \overset{*}{\tau}_\vartheta = \underbrace{\sigma\mathfrak{c}_\vartheta - \tau\mathfrak{s}_\vartheta}_{} \overbrace{\sigma\mathfrak{s}_\vartheta + \tau\mathfrak{c}_\vartheta}^{*} = \underbrace{\sigma\overset{*}{\sigma}}_{=1} \mathfrak{c}_\vartheta \mathfrak{s}_\vartheta - \underbrace{\tau\overset{*}{\tau}}_{=1} \mathfrak{s}_\vartheta \mathfrak{c}_\vartheta + \sigma\overset{*}{\tau} \underbrace{\mathfrak{c}_\vartheta^2 - \mathfrak{s}_\vartheta^2}_{} = 0 \text{ for } \vartheta$$

$$0 \leqslant \sigma_\vartheta \overset{*}{\sigma}_\vartheta = \underbrace{\sigma\mathfrak{c}_\vartheta - \tau\mathfrak{s}_\vartheta}_{} \overbrace{\sigma\mathfrak{c}_\vartheta - \tau\mathfrak{s}_\vartheta}^{*} = \underbrace{\sigma\overset{*}{\sigma}}_{=1} \mathfrak{c}_\vartheta^2 + \underbrace{\tau\overset{*}{\tau}}_{=1} \mathfrak{s}_\vartheta^2 - 2\underbrace{\sigma\overset{*}{\tau}}_{} \mathfrak{c}_\vartheta \mathfrak{s}_\vartheta = 1 - 2\underbrace{\sigma\overset{*}{\tau}}_{} \mathfrak{c}_\vartheta \mathfrak{s}_\vartheta$$

$$1/s = \sqrt{1 - 2\underbrace{\sigma\overset{*}{\tau}}_{}\mathfrak{c}_\vartheta\mathfrak{s}_\vartheta}$$

$$0 \leqslant \tau_\vartheta \overset{*}{\tau}_\vartheta = \underbrace{\sigma\mathfrak{s}_\vartheta + \tau\mathfrak{c}_\vartheta}_{} \overbrace{\sigma\mathfrak{s}_\vartheta + \tau\mathfrak{c}_\vartheta}^{*} = \underbrace{\sigma\overset{*}{\sigma}}_{=1} \mathfrak{s}_\vartheta^2 + \underbrace{\tau\overset{*}{\tau}}_{=1} \mathfrak{c}_\vartheta^2 + 2\underbrace{\sigma\overset{*}{\tau}}_{} \mathfrak{c}_\vartheta \mathfrak{s}_\vartheta = 1 + 2\underbrace{\sigma\overset{*}{\tau}}_{} \mathfrak{c}_\vartheta \mathfrak{s}_\vartheta$$

$$1/t = \sqrt{1 + 2\underbrace{\sigma\overset{*}{\tau}}_{}\mathfrak{c}_\vartheta\mathfrak{s}_\vartheta}$$

$$\int_{d\varphi|\psi}^{S_1} \int_{d\vartheta}^{U(\mathbb{C})} \int_{ds}^{\mathbb{R}_>} \int_{dt}^{\mathbb{R}_>} f\left(\underbrace{s\varphi + it\psi}_{}\,\mathfrak{e}^{\vartheta i}\right) = \int_{d\sigma}^{\mathbb{C}^n} f(\sigma)$$

$$d = 2m + \varepsilon \geqslant 1$$

$$Z_{\mathbb{R}} = \frac{z \in Z}{\bar{z} = z} = \mathbb{R}^{a+2} = \mathbb{R}^{2m+\varepsilon}$$

$$Z_1 = \frac{z \in Z}{z\overset{t}{z} = 0}$$

$$\mathbb{C}\times\mathbb{C}^{a} \ni= \alpha{:}\mathsf{L} \mapsto {}^{\alpha:\mathsf{L}}Q = \frac{\alpha^2 - \mathsf{L}\overset{t}{\mathsf{L}}}{2}{:}\frac{\alpha^2 + \mathsf{L}\overset{t}{\mathsf{L}}}{2i}{:}\alpha\mathsf{L} \in Z_1$$

$$\left(\frac{\alpha^2 - \mathsf{L}\overset{t}{\mathsf{L}}}{2}\right)^2 + \left(\frac{\alpha^2 + \mathsf{L}\overset{t}{\mathsf{L}}}{2i}\right)^2 + \underbrace{\alpha\mathsf{L}}\overbrace{\alpha\mathsf{L}}^{t} = \frac{\alpha^4}{4} + \frac{\overbrace{\mathsf{L}\overset{t}{\mathsf{L}}}^{2}}{4} - \frac{\overset{2}{\alpha}\underbrace{\mathsf{L}\overset{t}{\mathsf{L}}}}{2} - \frac{\alpha^4}{4} - \frac{\overbrace{\mathsf{L}\overset{t}{\mathsf{L}}}^{2}}{4} - \frac{\overset{2}{\alpha}\underbrace{\mathsf{L}\overset{t}{\mathsf{L}}}}{2} + \overset{2}{\alpha}\underbrace{\mathsf{L}\overset{t}{\mathsf{L}}} = 0$$

$$z \barwedge z = 2z\overset{*}{z}$$

$$e_1 \barwedge e_1 = 2\underbrace{1/2{:}i/2{:}0}\overbrace{1/2{:}i/2{:}0}^{*} = 2\,(1/4 + 1/4) = 1$$

$$S_1 = \frac{z \in Z_1}{z\overset{*}{z} = 1/2}$$

$$S_1 = \frac{\dfrac{\varphi^2 - \psi\overset{t}{\psi}}{2}{:}\dfrac{\varphi^2 + \psi\overset{t}{\psi}}{2i}{:}\varphi\psi}{\varphi^2\bar{\varphi}^2 + \underbrace{\psi\overset{t}{\psi}}\underbrace{\bar{\psi}\overset{*}{\psi}} + 2\varphi\bar{\varphi}\underbrace{\psi\overset{*}{\psi}} = 1}$$

$${}^{\varphi\psi}Q = \frac{\varphi^2 - \psi\overset{t}{\psi}}{2}{:}\frac{\varphi^2 + \psi\overset{t}{\psi}}{2i}{:}\varphi\psi$$

$$2\,{}^{\varphi\psi}Q\;{}^{\varphi\psi}\overset{*}{Q} = 2\underbrace{\frac{\varphi^2 - \psi\overset{t}{\psi}}{2}{:}\frac{\varphi^2 + \psi\overset{t}{\psi}}{2i}{:}\varphi\psi}\;\overbrace{\frac{\varphi^2 - \psi\overset{t}{\psi}}{2}{:}\frac{\varphi^2 + \psi\overset{t}{\psi}}{2i}{:}\varphi\psi}^{*}$$

$$= \overbrace{\varphi^2 - \psi\overset{t}{\psi}}^{2}/2 + \overbrace{\varphi^2 + \psi\overset{t}{\psi}}^{2}/2 + 2\varphi\,\bar{\varphi}\,\underbrace{\psi\overset{*}{\psi}} = \varphi^2\,\bar{\varphi}^2 + \underbrace{\psi\overset{t}{\psi}}\underbrace{\bar{\psi}\overset{*}{\psi}} + 2\varphi\,\bar{\varphi}\,\underbrace{\psi\overset{*}{\psi}}$$

$${}^{\xi\eta}Q = \frac{\xi^2 - \eta\overset{t}{\eta}}{2}{:}\frac{\xi^2 + \eta\overset{t}{\eta}}{2i}{:}\xi\eta$$

$$\xi = r\varphi{:}\eta = r\psi$$