```
ln[1]:= ProductHermitian[v1_, v2_, \alpha_, \tau_] :=
               Conjugate [v1]. \{\{\cos [\alpha - \tau]^2 + \sin [\tau]^2, -2 \pm \sin [\alpha] \sin [\tau]^2\},
                       \left\{2\,\dot{\mathtt{n}}\,\mathsf{Sin}[\alpha]\,\mathsf{Sin}[\tau]^{\,2},\,\mathsf{Cos}[\alpha+\tau]^{\,2}\,+\,\mathsf{Sin}[\tau]^{\,2}\right\}\right\}.\mathsf{Transpose}[\mathsf{v2}]\,\mathsf{Sec}[\alpha]^{\,2}
            Evolution = \{\{\cos[\tau - \alpha], -i * \sin[\tau]\}, \{-i * \sin[\tau], \cos[\alpha + \tau]\}\} * \sec[\alpha]
            EvolutionConjugated =
               Transpose [{\{Cos[\tau - \alpha], i * Sin[\tau]\}, \{i * Sin[\tau], Cos[\alpha + \tau]\}\} * Sec[\alpha]]
           v1Probe = \left\{ \left\{ \frac{1}{\sqrt{2}}, \frac{\dot{\mathbf{n}}}{\sqrt{2}} \right\} \right\}
           v2Probe = \{\{\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\}\}
           v3Probe = \{\{\cos\left[\frac{\rho}{2}\right], i\sin\left[\frac{\rho}{2}\right]\}\}
            cos12 = FullSimplify [(ProductHermitian[v1Probe, v2Probe, \alpha, \tau])^2/
                     (ProductHermitian[v1Probe, v1Probe, \alpha, \tau] * ProductHermitian[v2Probe, v2Probe, \alpha, \tau])
            cos13 = FullSimplify [(ProductHermitian[v1Probe, v3Probe, \alpha, \tau])^2/
                     (ProductHermitian[v1Probe, v1Probe, \alpha, \tau] *
                         ProductHermitian[v3Probe, v3Probe, \alpha, \tau]), {\rho \in \text{Reals}}
            cos23 = FullSimplify (ProductHermitian [v2Probe, v3Probe, \alpha, \tau]) ^2 /
                     (ProductHermitian[v2Probe, v2Probe, \alpha, \tau] *
                         ProductHermitian[v3Probe, v3Probe, \alpha, \tau]), {\rho \in \text{Reals}}
 Out[2] = \{\{Cos[\alpha - \tau] Sec[\alpha], -i Sec[\alpha] Sin[\tau]\}, \{-i Sec[\alpha] Sin[\tau], Cos[\alpha + \tau] Sec[\alpha]\}\}
 Out[3] = \{ \{ Cos[\alpha - \tau] Sec[\alpha], i Sec[\alpha] Sin[\tau] \}, \{ i Sec[\alpha] Sin[\tau], Cos[\alpha + \tau] Sec[\alpha] \} \}
Out[4]= \left\{ \left\{ \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right\} \right\}
Out[5]= \left\{ \left\{ \frac{1}{\sqrt{2}}, -\frac{i}{\sqrt{2}} \right\} \right\}
Out[6]= \left\{ \left\{ \cos \left[ \frac{\rho}{2} \right], i \sin \left[ \frac{\rho}{2} \right] \right\} \right\}
Out[7]= \left\{ \left\{ \frac{4 \sin \left[\alpha\right]^2 \sin \left[2 \tau\right]^2}{3 + \cos \left[2 \alpha\right] - 2 \cos \left[4 \tau\right] \sin \left[\alpha\right]^2} \right\} \right\}
Out[8]= \left\{ \left\{ \left( 2 \left( \cos \left[ \frac{\rho}{2} \right] \right) \left( \cos \left[ \alpha - \tau \right]^2 + \left( 1 + 2 \sin \left[ \alpha \right] \right) \sin \left[ \tau \right]^2 \right) + \right\} \right\} \right\}
                                \operatorname{Sin}\left[\frac{\rho}{2}\right] \left(\operatorname{Cos}\left[\alpha + \tau\right]^{2} + \left(1 + 2\operatorname{Sin}\left[\alpha\right]\right)\operatorname{Sin}\left[\tau\right]^{2}\right)\right)^{2}
                     \left( \left( \cos \left[ \alpha - \tau \right]^2 + \cos \left[ \alpha + \tau \right]^2 + 2 \left( 1 + 2 \sin \left[ \alpha \right] \right) \sin \left[ \tau \right]^2 \right) \left( 2 + \cos \left[ \alpha - \rho \right] - \cos \left[ \alpha + \rho \right] - \cos \left[ \alpha + \rho \right] \right) \right)
                              2 \cos[2 \tau] \sin[\alpha] \left(\sin[\alpha] + \sin[\rho]\right) + \cos[\rho] \sin[2 \alpha] \sin[2 \tau]\right)
Out[9]= \left\{ \left\{ \left( 2 \left( \cos \left[ \frac{\rho}{2} \right] \right) \left( \cos \left[ \alpha - \tau \right]^2 + \left( 1 - 2 \sin \left[ \alpha \right] \right) \sin \left[ \tau \right]^2 \right) - \right\} \right\} \right\}
                                \operatorname{Sin}\left[\frac{\rho}{2}\right] \left(\operatorname{Cos}\left[\alpha + \tau\right]^{2} + \left(1 - 2\operatorname{Sin}\left[\alpha\right]\right)\operatorname{Sin}\left[\tau\right]^{2}\right)\right)^{2}
                     \left(\left(\cos\left[\alpha-\tau\right]^{2}+\cos\left[\alpha+\tau\right]^{2}+2\left(1-2\sin\left[\alpha\right]\right)\sin\left[\tau\right]^{2}\right)\left(2+\cos\left[\alpha-\rho\right]-\cos\left[\alpha+\rho\right]-\cos\left[\alpha+\rho\right]\right)
                              2 \cos[2 \tau] \sin[\alpha] \left(\sin[\alpha] + \sin[\rho]\right) + \cos[\rho] \sin[2 \alpha] \sin[2 \tau]\right)
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\ln[10] = \cos 12F[\alpha_{-}, \tau_{-}, \rho_{-}] := \frac{4 \sin[\alpha]^{2} \sin[2\tau]^{2}}{3 + \cos[2\alpha] - 2 \cos[4\tau] \sin[\alpha]^{2}}
                   \cos 13F[\alpha_{-}, \tau_{-}, \rho_{-}] := \left(2\left(\cos\left[\frac{\rho}{2}\right]\right)\left(\cos\left[\alpha - \tau\right]^{2} + \left(1 + 2\sin\left[\alpha\right]\right)\sin\left[\tau\right]^{2}\right) + \left(1 + 2\sin\left[\alpha\right]\right)\sin\left[\tau\right]^{2}\right)
                                             \operatorname{Sin}\left[\frac{\rho}{2}\right] \left(\operatorname{Cos}\left[\alpha+\tau\right]^{2}+\left(1+2\operatorname{Sin}\left[\alpha\right]\right)\operatorname{Sin}\left[\tau\right]^{2}\right)\right)^{2}
                            \left(\left(\cos\left[\alpha-\tau\right]^{2}+\cos\left[\alpha+\tau\right]^{2}+2\left(1+2\sin\left[\alpha\right]\right)\sin\left[\tau\right]^{2}\right)\left(2+\cos\left[\alpha-\rho\right]-\cos\left[\alpha+\rho\right]-\cos\left[\alpha+\rho\right]\right)
                                          2 \cos[2\tau] \sin[\alpha] \left(\sin[\alpha] + \sin[\rho]\right) + \cos[\rho] \sin[2\alpha] \sin[2\tau]\right)
                   \cos 23F[\alpha_{-}, \tau_{-}, \rho_{-}] := \left(2\left(\cos\left[\frac{\rho}{2}\right]\left(\cos\left[\alpha - \tau\right]^{2} + \left(1 - 2\sin\left[\alpha\right]\right)\sin\left[\tau\right]^{2}\right) - \left(\cos\left[\alpha - \tau\right]^{2} + \left(1 - 2\sin\left[\alpha\right]\right)\sin\left[\tau\right]^{2}\right)\right)
                                             \operatorname{Sin}\left[\frac{\rho}{2}\right] \left(\operatorname{Cos}\left[\alpha+\tau\right]^2+\left(1-2\operatorname{Sin}\left[\alpha\right]\right)\operatorname{Sin}\left[\tau\right]^2\right)\right)^2
                            \left(\left(\cos\left[\alpha-\tau\right]^{2}+\cos\left[\alpha+\tau\right]^{2}+2\left(1-2\sin\left[\alpha\right]\right)\sin\left[\tau\right]^{2}\right)\left(2+\cos\left[\alpha-\rho\right]-\cos\left[\alpha+\rho\right]-\cos\left[\alpha+\rho\right]\right)
                                          2 \cos[2\tau] \sin[\alpha] \left(\sin[\alpha] + \sin[\rho]\right) + \cos[\rho] \sin[2\alpha] \sin[2\tau]\right)
  ln[13]:= vector1 = \left\{ \left\{ \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right\} \right\}
                  vector2 = \left\{ \left\{ \frac{1}{\sqrt{2}}, -\frac{i}{\sqrt{2}} \right\} \right\}
                  vectorRef = \left\{ \left\{ \cos \left[ \frac{\rho}{2} \right], i \sin \left[ \frac{\rho}{2} \right] \right\} \right\}
                   Unit = \{\{1, 0\}, \{0, 1\}\}
                   Evolution = \{\{\cos[\tau - \alpha], -i * \sin[\tau]\}, \{-i * \sin[\tau], \cos[\alpha + \tau]\}\} * \sec[\alpha]
                   \tauPerp = \pi/2
Out[13]= \left\{ \left\{ \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}} \right\} \right\}
Out[14]= \left\{ \left\{ \frac{1}{\sqrt{2}}, -\frac{i}{\sqrt{2}} \right\} \right\}
Out[15]= \left\{ \left\{ \cos \left[ \frac{\rho}{2} \right], i \sin \left[ \frac{\rho}{2} \right] \right\} \right\}
 Out[16]= \{\{1,0\},\{0,1\}\}
 \mathsf{Out}[17] = \left\{ \left\{ \mathsf{Cos}\left[\alpha - \tau\right] \, \mathsf{Sec}\left[\alpha\right], \, -\mathrm{i} \, \mathsf{Sec}\left[\alpha\right] \, \mathsf{Sin}\left[\tau\right] \right\}, \, \left\{ -\mathrm{i} \, \mathsf{Sec}\left[\alpha\right] \, \mathsf{Sin}\left[\tau\right], \, \mathsf{Cos}\left[\alpha + \tau\right] \, \mathsf{Sec}\left[\alpha\right] \right\} \right\}
Out[18]= 70
 Out[19]= 1
  |a|_{\Omega} = \text{EvolutionMT} = \{ \{ \cos[\alpha + \tau] \ \text{Sec}[\alpha], \ \text{is} \ \text{Sec}[\alpha] \ \text{Sin}[\tau] \}, \ \{ \text{is} \ \text{Sec}[\alpha] \ \text{Sin}[\tau], \ \text{Cos}[\alpha - \tau] \ \text{Sec}[\alpha] \} \}
 \mathsf{Out}[20] = \left\{ \left\{ \mathsf{Cos}\left[\alpha + \tau\right] \; \mathsf{Sec}\left[\alpha\right], \; \mathsf{i} \; \mathsf{Sec}\left[\alpha\right] \; \mathsf{Sin}\left[\tau\right] \right\}, \; \left\{ \mathsf{i} \; \mathsf{Sec}\left[\alpha\right] \; \mathsf{Sin}\left[\tau\right], \; \mathsf{Cos}\left[\alpha - \tau\right] \; \mathsf{Sec}\left[\alpha\right] \right\} \right\}
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In[21]:= LeftEvolutionMT =
                                            \{\{\cos[\alpha+\tau] \sec[\alpha], -i * \sec[\alpha] \sin[\tau]\}, \{-i * \sec[\alpha] \sin[\tau], \sec[\alpha] \cos[\alpha-\tau]\}\}
  Out[21]= { \{\cos[\alpha + \tau] \sec[\alpha], -i \sec[\alpha] \sin[\tau]\}, \{-i \sec[\alpha] \sin[\tau]\}, \cos[\alpha - \tau] \sec[\alpha]\} \}
     ln[22]:= Unit = {{1, 0}, {0, 1}}
  Out[22]= \{\{1,0\},\{0,1\}\}
     ln[23] = Nm = (N0 * FullSimplify[LeftEvolutionMT.EvolutionMT])
                                     ZetaF = MatrixPower [Nm - Unit, 1/2]
  \mathsf{Out}[23] = \left\{ \left\{ \mathsf{N0}\,\mathsf{Sec}\left[\alpha\right]^2 \left(\mathsf{Cos}\left[\alpha+\tau\right]^2 + \mathsf{Sin}\left[\tau\right]^2\right), \, -2\,\dot{\mathbb{1}}\,\mathsf{N0}\,\mathsf{Sec}\left[\alpha\right]\,\mathsf{Sin}\left[\tau\right]^2\,\mathsf{Tan}\left[\alpha\right] \right\},\right\}
                                                 2 i N0 Sec[\alpha] Sin[\tau]^2 Tan[\alpha], N0 Sec[\alpha]^2 (Cos[\alpha - \tau]^2 + Sin[\tau]^2)}
Out[24]= \left\{ \left\{ \sqrt{\frac{1}{1 + \cos \left[ 2 \alpha \right]}} \right\} \right\}
                                                                                              \left[\,\textbf{-2}\,+\,\textbf{4}\,\,\textbf{N0}\,\,\textbf{-2}\,\,\textbf{Cos}\,\,[\,\textbf{2}\,\,\alpha\,]\,\,+\,\,\textbf{N0}\,\,\textbf{Cos}\,\,[\,\textbf{2}\,\,\alpha\,\,\textbf{-2}\,\,\tau\,\,]\,\,-\,\textbf{2}\,\,\textbf{N0}\,\,\textbf{Cos}\,\,[\,\textbf{2}\,\,\tau\,\,]\,\,+\,\,\textbf{N0}\,\,\textbf{Cos}\,\,[\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,]\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sqrt{\,\textbf{2}\,\,\text{N0}}\,\,(\,\textbf{2}\,\,\alpha\,\,+\,\,\textbf{2}\,\,\tau\,\,)\,\,+\,\,\textbf{2}\,\,\sigma\,\,)\,\,
                                                                                                                \sqrt{\mathsf{N0^2}\left(\mathsf{6} + \mathsf{2}\,\mathsf{Cos}\left[\mathsf{2}\,\alpha\right] + \mathsf{Cos}\left[\mathsf{2}\,\alpha - \mathsf{2}\,\tau\right] - \mathsf{2}\,\mathsf{Cos}\left[\mathsf{2}\,\tau\right] + \mathsf{Cos}\left[\mathsf{2}\,\alpha + \mathsf{2}\,\tau\right]\right)\,\mathsf{Sin}\left[\alpha\right]^2\,\mathsf{Sin}\left[\tau\right]^2}\right)}\right)
                                                                                   ig(4 N0 + N0 Cos [2 lpha - 2 	au] - 2 N0 Cos [2 	au] + N0 Cos [2 lpha + 2 	au] - 2 N0 Cos [lpha - 	au] ^2 Sec [lpha] ^2 -
                                                                                           2 N0 Cos [2 \alpha] Cos [\alpha – \tau] ^2 Sec [\alpha] ^2 – 2 N0 Sec [\alpha] ^2 Sin [\tau] ^2 –
                                                                                            2 N0 Cos [2\alpha] Sec [\alpha]^2 Sin [\tau]^2 + 2\sqrt{2}
                                                                                                  \sqrt{N0^2 \left(6 + 2 \cos \left[2 \alpha\right] + \cos \left[2 \alpha - 2 \tau\right] - 2 \cos \left[2 \tau\right] + \cos \left[2 \alpha + 2 \tau\right]\right) \sin \left[\alpha\right]^2 \sin \left[\tau\right]^2}
                                                                   \left(8\,\sqrt{\,\text{NO}^{2}\,\left(6+2\,\text{Cos}\,[\,2\,\alpha\,]\,+\,\text{Cos}\,[\,2\,\alpha\,-\,2\,\,\tau\,]\,\,-\,2\,\,\text{Cos}\,[\,2\,\,\tau\,]\,\,+\,\,\text{Cos}\,[\,2\,\alpha\,+\,2\,\,\tau\,]\,\,\right)\,\,\text{Sin}\,[\,\alpha\,]^{\,2}\,\,\text{Sin}\,[\,\tau\,]^{\,2}}\,\,\right)\,+\,\,\text{Cos}\,[\,2\,\alpha\,+\,2\,\,\tau\,]\,\,
                                                            \left(\sqrt{\left(\frac{1}{1+\cos\left[2\,\alpha\right]}\left(-2+4\,\mathsf{N0}-2\,\cos\left[2\,\alpha\right]+\mathsf{N0}\,\cos\left[2\,\alpha-2\,\tau\right]\right)}\right)
                                                                                                          2 N0 Cos [ 2 \tau ] + N0 Cos [ 2 \alpha + 2 \tau ] - 2 \sqrt{2}
                                                                                                               \sqrt{\,\text{N0}^{2}\,\left(6+2\,\text{Cos}\,[\,2\,\alpha]\,+\,\text{Cos}\,[\,2\,\alpha\,-\,2\,\,\tau\,]\,\,-\,2\,\text{Cos}\,[\,2\,\,\tau\,]\,\,+\,\text{Cos}\,[\,2\,\alpha\,+\,2\,\,\tau\,]\,\,\right)\,\,\text{Sin}\,[\,\alpha\,]^{\,2}\,\,\text{Sin}\,[\,\tau\,]^{\,2}\,\,}\,\,\right)\,|\,
                                                                                \left(-\,4\,\,\text{N0}\,-\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,-\,2\,\,\tau\,]\,\,+\,2\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\tau\,]\,\,-\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,+\,2\,\,\tau\,]\,\,+\,2\,\,\text{N0}\,\,\text{Cos}\,[\,\alpha\,-\,\tau\,]^{\,2}\,\,\text{Sec}\,[\,\alpha\,]^{\,2}\,\,+\,2\,\,\text{N0}\,\,\text{Cos}\,[\,\alpha\,-\,\tau\,]^{\,2}\,\,\text{N0}\,\,\text{Cos}\,[\,\alpha\,-\,\tau\,]^{\,2}\,\,\text{N0}\,\,\text{Cos}\,[\,\alpha\,-\,\tau\,]^{\,2}\,\,\text{N0}\,\,\text{Cos}\,[\,\alpha\,-\,\tau\,]^{\,2}\,\,\text{N0}\,\,\text{Cos}\,[\,\alpha\,-\,\tau\,]^{\,2}\,\,\text{N0}\,\,\text{Cos}\,[\,\alpha\,-\,\tau\,]^{\,2}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N0}\,\,\text{N
                                                                                            2 N0 Cos [2\alpha] Cos [\alpha – \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> + 2 N0 Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> +
                                                                                            2 N0 Cos [2 \alpha] Sec [\alpha] ^{2} Sin [\tau] ^{2} + 2 \sqrt{2}
                                                                                                  \sqrt{\mathsf{N0^2}\,\left(\mathsf{6} + \mathsf{2}\,\mathsf{Cos}\,\left[\,\mathsf{2}\,\alpha\,\right] \,+\,\mathsf{Cos}\,\left[\,\mathsf{2}\,\alpha - \mathsf{2}\,\tau\,\right] \,-\,\mathsf{2}\,\mathsf{Cos}\,\left[\,\mathsf{2}\,\tau\,\right] \,+\,\mathsf{Cos}\,\left[\,\mathsf{2}\,\alpha + \mathsf{2}\,\tau\,\right]\,\right)\,\,\mathsf{Sin}\,\left[\,\alpha\,\right]^{\,\mathsf{2}}\,\mathsf{Sin}\left[\,\tau\,\right]^{\,\mathsf{2}}}\,\,\right)\,\,\bigg|\,\,\Big/
                                                                    \left(8\sqrt{\mathsf{N0^2}\left(6+2\cos\left[2\,lpha
ight]+\cos\left[2\,lpha-2\,	au
ight]-2\cos\left[2\,	au
ight]+\cos\left[2\,lpha+2\,	au
ight]
ight)\,\sin\left[lpha
ight]^2\sin\left[	au
ight]^2}
ight),
                                                     \left(i \cos [\alpha] \cot [\alpha] \csc [\tau]^2 \sqrt{\left(\frac{1}{1 + \cos [2\alpha]}\right)^2}\right)
                                                                                              \left(-\,2\,+\,4\,\,\text{N0}\,-\,2\,\,\text{Cos}\,[\,2\,\,\alpha\,]\,\,+\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,-\,2\,\,\tau\,]\,\,-\,2\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\tau\,]\,\,+\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,+\,2\,\,\tau\,]\,\,-\,2\,\,\sqrt{\,2\,}\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,+\,2\,\,\tau\,]\,\,-\,2\,\,\sqrt{\,2\,}\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,+\,2\,\,\tau\,]\,\,-\,2\,\,\sqrt{\,2\,}\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,+\,2\,\,\tau\,]\,\,-\,2\,\,\sqrt{\,2\,}\,\,\text{N0}\,\,\text{Cos}\,[\,2\,\,\alpha\,+\,2\,\,\tau\,]\,
                                                                                                                \sqrt{N0^2 \left(6 + 2 \cos \left[2 \alpha\right] + \cos \left[2 \alpha - 2 \tau\right] - 2 \cos \left[2 \tau\right] + \cos \left[2 \alpha + 2 \tau\right]\right) \sin \left[\alpha\right]^2 \sin \left[\tau\right]^2}
                                                                                  igg(4\,\text{NO} + \text{NO Cos}\,[2\,lpha - 2\,	au] \, - \, 2\,\text{NO Cos}\,[2\,	au] \, + \, \text{NO Cos}\,[2\,lpha + \, 2\,	au] \, - \, 2\,\text{NO Cos}\,[lpha - 	au]^{\,2}\,\text{Sec}\,[lpha]^{\,2} \, - \, 1\,
```

$$2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha] \, \text{Cos} \, [\alpha - \tau]^2 \, \text{Sec} \, [\alpha]^2 - 2 \, \text{NO} \, \text{Sec} \, [\alpha]^2 \, \text{Sin} \, [\tau]^2 - 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha] \, \text{Sec} \, [\alpha]^2 \, \text{Sin} \, [\tau]^2 + 2 \, \sqrt{2} \, \sqrt{\text{NO}^2} \, \left(6 + 2 \, \text{Cos} \, [2 \, \alpha] + \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha + 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha + 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha + 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha + 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha - 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha + 2 \, \tau] + 2 \, \text{NO} \, \text{Cos} \, [2 \, \alpha$$

$$\sqrt{\mathsf{N}\theta^2 \left(6 + 2 \cos \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2 \cos \left[2 \, \tau \right] + \mathsf{Cos} \left[2 \, \alpha + 2 \, \tau \right] \right) \, \mathsf{Sin} \left[\alpha \right]^2 \, \mathsf{Sin} \left[\tau \right]^2} \, \right) }$$

$$\mathsf{Tan} \left[\alpha \right] \, \right) \, \left(2 \, \\ \sqrt{\mathsf{N}\theta^2 \left(6 + 2 \cos \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2 \cos \left[2 \, \tau \right] + \mathsf{Cos} \left[2 \, \alpha + 2 \, \tau \right] \right) \, \mathsf{Sin} \left[\alpha \right]^2 \, \mathsf{Sin} \left[\tau \right]^2} \, \right), }$$

$$\left(\sqrt{\left(\frac{1}{1 + \mathsf{Cos} \left[2 \, \alpha \right]} \left(-2 + 4 \, \mathsf{N}\theta - 2 \cos \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2} \right. \right)} \right.$$

$$= 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \tau \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha + 2 \, \tau \right] - 2 \, \mathsf{V}^2} \\ \sqrt{\mathsf{N}\theta^2 \left(6 + 2 \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{Cos} \left[2 \, \tau \right] + \mathsf{Cos} \left[2 \, \alpha + 2 \, \tau \right] \right) \, \mathsf{Sin} \left[\alpha \right]^2 \, \mathsf{Sin} \left[\tau \right]^2} \, \right) \right) }$$

$$\left(4 \, \mathsf{N}\theta + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha + 2 \, \tau \right] \right) \, \mathsf{Sin} \left[\alpha \right]^2 \, \mathsf{Sin} \left[\tau \right]^2} \, \right) \right)$$

$$\left(4 \, \mathsf{N}\theta + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha + 2 \, \tau \right] \right) \, \mathsf{Sin} \left[\alpha \right]^2 \, \mathsf{Sin} \left[\tau \right]^2} \right) \right)$$

$$\left(4 \, \mathsf{N}\theta + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha \right]$$

In[25]:= Evolution.Transpose[vectorRef]

$$\begin{aligned} & \text{Out} [25] = & \left\{ \left\{ \text{Cos} \left[\frac{\rho}{2} \right] \, \text{Cos} \left[\alpha - \tau \right] \, \text{Sec} \left[\alpha \right] \, + \text{Sec} \left[\alpha \right] \, \text{Sin} \left[\frac{\rho}{2} \right] \, \text{Sin} \left[\tau \right] \right\}, \\ & \left\{ \text{\mathbb{i} Cos} \left[\alpha + \tau \right] \, \text{Sec} \left[\alpha \right] \, \text{Sin} \left[\frac{\rho}{2} \right] \, - \, \text{\mathbb{i} Cos} \left[\frac{\rho}{2} \right] \, \text{Sec} \left[\alpha \right] \, \text{Sin} \left[\tau \right] \right\} \right\} \end{aligned}$$

In[26]:= ZetaF.Evolution.Transpose[vectorRef]

$$\begin{aligned} \text{Out} & [26] = \ \left\{ \left\{ \ \text{\^{i}} \ \text{Sin} \left[\frac{\rho}{2} \right] \right. \\ & \left. \left(- \ \text{\^{i}} \ \text{Sec} \left[\alpha \right] \ \text{Sin} \left[\tau \right] \ \left(\left(\sqrt{\left(\frac{1}{1 + \text{Cos} \left[2 \, \alpha \right]} \left(-2 + 4 \, \text{N0} - 2 \, \text{Cos} \left[2 \, \alpha \right] + \text{N0} \, \text{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \text{N0} \, \text{Cos} \left[2 \, \tau \right] \right. + \\ & \left. \text{N0} \ \text{Cos} \left[2 \, \alpha + 2 \, \tau \right] + 2 \, \sqrt{2} \ \sqrt{\left(\text{N0}^2 \left(6 + 2 \, \text{Cos} \left[2 \, \alpha \right] + \text{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \text{N0} \, \text{Cos} \left[2 \, \alpha + 2 \, \tau \right] \right) \right. \right) } \right) \end{aligned}$$

$$\left(4 \text{ NO} + \text{NO} \cos \left[2 \alpha - 2 \tau\right] - 2 \text{ NO} \cos \left[2 \tau\right] + \text{NO} \cos \left[2 \alpha + 2 \tau\right] - 2 \text{ NO} \cos \left[\alpha - \tau\right]^2 \\ \text{Sec}\left(\alpha\right]^2 - 2 \text{ NO} \cos \left[2 \alpha\right] \cos \left[\alpha - \tau\right]^2 \sec \left(\alpha\right]^2 - 2 \text{ NO} \sec \left(\alpha\right]^2 \sin \left[\tau\right]^2 - 2 \text{ NO} \cos \left[2 \alpha\right] \sec \left[\alpha\right]^2 \sin \left[\tau\right]^2 + 2 \sqrt{2} \sqrt{\left(\text{NO}^2\left(\text{NO}^2\left(6 + 2 \cos \left[2 \alpha\right] + \sin \left[\tau\right]^2\right)\right)}\right) / \left(8 \right) \right)$$

$$\left(\cos \left[2 \alpha - 2 \tau\right] - 2 \cos \left[2 \tau\right] + \cos \left[2 \alpha + 2 \tau\right]\right) \sin \left[\alpha\right]^2 \sin \left[\tau\right]^2\right) \right) / \left(8 \right)$$

$$\left(\cos \left[2 \alpha - 2 \tau\right] - 2 \cos \left[2 \tau\right] + \cos \left[2 \alpha + 2 \tau\right]\right) \sin \left[\alpha\right]^2 \sin \left[\tau\right]^2\right) \right) / \left(8 \right)$$

$$\left(\sqrt{\left(\frac{1}{1 + \cos \left[2 \alpha\right]} \left(-2 + 4 \text{ NO} - 2 \cos \left[2 \alpha\right] + \text{NO} \cos \left[2 \alpha - 2 \tau\right] - 2 \text{ NO} \cos \left[2 \tau\right] + \right) + \left(\sqrt{\left(\frac{1}{1 + \cos \left[2 \alpha\right]} \left(-2 + 4 \text{ NO} - 2 \cos \left[2 \alpha\right] + \text{NO} \cos \left[2 \alpha - 2 \tau\right] - 2 \text{ NO} \cos \left[2 \tau\right] + \right) + \left(\sqrt{\left(\frac{1}{1 + \cos \left[2 \alpha\right]} \left(-2 + 4 \text{ NO} - 2 \cos \left[2 \alpha\right] + \text{NO} \cos \left[2 \alpha - 2 \tau\right] - 2 \cos \left[2 \tau\right] + \left(\cos \left[2 \alpha\right] + \cos \left[2$$

$$\begin{split} & \operatorname{Sec}[\alpha]^2 - 2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[\alpha - \tau]^2 \operatorname{Sec}[\alpha]^2 - 2 \operatorname{NO} \operatorname{Sec}[\alpha]^2 \operatorname{Sin}[\tau]^2 - 2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha] \operatorname{Sec}[\alpha]^2 \operatorname{Sin}[\tau]^2 - 2 \operatorname{NO} 2 / (\operatorname{NO}^2 \left(6 - 2 \operatorname{Cos}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha - \tau]^2 \operatorname{Sec}[\alpha]^2 + \operatorname{Cos}[2 \, \alpha - \tau]^2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha - \tau]^2 - 2 \operatorname{Cos}[2 \, \tau] + \operatorname{Cos}[2 \, \alpha - \tau]^2 \operatorname{Sec}[\alpha]^2 + 2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha - \tau]^2 \\ & \operatorname{Sec}[\alpha]^2 + 2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[\alpha - \tau]^2 \operatorname{Sec}[\alpha]^2 + 2 \operatorname{NO} \operatorname{Sec}[\alpha]^2 \operatorname{Sin}[\tau]^2 + 2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha + 2 \, \tau]) \operatorname{Sin}[\alpha]^2 \operatorname{Sin}[\tau]^2 + 2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha + 2 \, \tau]) \operatorname{Sin}[\alpha]^2 \operatorname{Sin}[\tau]^2 + 2 \operatorname{NO} \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha + 2 \, \tau]) \operatorname{Sin}[\alpha]^2 \operatorname{Sin}[\tau]^2 \operatorname{O} \operatorname{Os}[2 \, \alpha] + \operatorname{Cos}[2 \, \alpha] \operatorname{Cos}[2 \,$$

$$N\theta \cos [2\alpha + 2\tau] + 2\sqrt{2} \sqrt{(N\theta^2 (6 + 2\cos[2\alpha] + \cos[2\alpha - 2\tau] - 2\cos[2\tau] + \cos[2\alpha + 2\tau])} \sin[\alpha]^2 \sin[\tau]^2))}$$

$$(-4 N\theta - N\theta \cos[2\alpha - 2\tau] + 2 N\theta \cos[2\tau] - N\theta \cos[2\alpha + 2\tau] + 2 N\theta \cos[\alpha - \tau]^2$$

$$Sec[\alpha]^2 + 2 N\theta \cos[2\alpha] \cos[\alpha - \tau]^2 Sec[\alpha]^2 + 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 + 2 N\theta \cos[2\alpha] Sec[\alpha]^2 Sin[\tau]^2 + 2 N\theta \cos[2\alpha - 2\tau] - 2 \cos[2\tau] + \cos[2\alpha + 2\tau]) Sin[\alpha]^2 Sin[\tau]^2)))/(\theta$$

$$\sqrt{N\theta^2 (6 + 2\cos[2\alpha] + \cos[2\alpha - 2\tau] - 2\cos[2\tau] + \cos[2\alpha + 2\tau]) Sin[\alpha]^2 Sin[\tau]^2)}$$

$$+ \cos[\alpha - \tau] Sec[\alpha] \left(-\left(\frac{1}{2} N\theta (1 + \cos[2\alpha]) Sec[\alpha] Sin[\tau]^2 \right) \right) - 2 N\theta \cos[2\tau] + N\theta \cos[2\alpha + 2\tau] - 2 N\theta \cos[2\tau] + N\theta \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + N\theta \cos[2\alpha + 2\tau] \right) Sin[\alpha]^2 Sin[\tau]^2))$$

$$+ \cos[2\alpha + 2\tau] - 2\sqrt{2} \sqrt{(N\theta^2 (6 + 2\cos[2\alpha] + \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + \cos[2\alpha + 2\tau])} Sin[\alpha]^2 Sin[\tau]^2)}$$

$$+ \left(\frac{1}{1 + \cos[2\alpha]} (-2 + 4 N\theta - 2 \cos[2\alpha] + N\theta \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + 2 N\theta \cos[2\alpha + 2\tau] \right) Sin[\alpha]^2 Sin[\tau]^2)$$

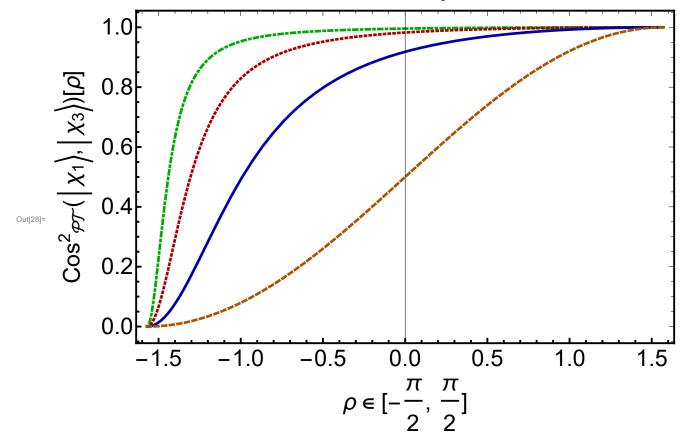
$$+ \left(\frac{1}{1 + \cos[2\alpha]} (-2 + 4 N\theta - 2 \cos[2\alpha] + N\theta \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + N\theta \cos[2\alpha + 2\tau] + 2 \sqrt{2} \sqrt{(N\theta^2 (6 + 2\cos[2\alpha] + \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + 2 N\theta \cos[2\alpha + 2\tau] + 2 \sqrt{2} \sqrt{(N\theta^2 (6 + 2\cos[2\alpha] + \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + 2 N\theta \cos[2\alpha + 2\tau] + 2 N\theta \cos[2\alpha + 2\tau] \right) Sin[\alpha]^2 Sin[\tau]^2)} \right)$$

$$+ i Sin[\frac{\alpha}{2} \left(\cos[\alpha + \tau] Sec[\alpha] \left(-2 + 4 N\theta - 2 \cos[2\alpha] + N\theta \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + N\theta \cos[2\alpha + 2\tau] - 2 N\theta \cos[2\tau] + 2 N\theta \cos[2\alpha] - 2 N\theta \cos[2\alpha] + 2 N\theta \cos[2\alpha] - 2 N\theta \cos[2\alpha] + N\theta \cos[2\alpha + 2\tau] - 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 \right)$$

$$(4 N\theta + N\theta \cos[2\alpha - 2\tau] - 2 N\theta \cos[2\tau] + N\theta \cos[2\alpha + 2\tau] - 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 - 2 N\theta \cos[2\alpha] Sec[\alpha]^2 Sin[\tau]^2 + 2 \sqrt{2} \sqrt{(N\theta^2 (6 + 2 \cos[2\alpha] + 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 - 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 - 2 N\theta Cos[2\alpha] Sec[\alpha]^2 Sin[\tau]^2 + 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 - 2 N\theta Cos[2\alpha] Sec[\alpha]^2 Sin[\tau]^2 + 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 Sin[\tau]^2 + 2 N\theta Cos[2\alpha] Sec[\alpha]^2 Sin[\tau]^2 + 2 N\theta Sec[\alpha]^2 Sin[\tau]^2 Sin[\tau]^2 Sin[\tau]^2 Sin[\tau]^2 Sin[\tau]^2 Sin$$

In [27]:= FirstPart [MO_,
$$\alpha$$
_, τ _, ρ _] := Abs $\left[i \cos \left[\alpha + \tau \right] \sec \left[\alpha \right] \sin \left[\frac{\rho}{2} \right] - i \cos \left[\frac{\rho}{2} \right] \sec \left[\alpha \right] \sin \left[\tau \right] \right]^2 + Abs \left[\cos \left[\frac{\rho}{2} \right] \cos \left[\alpha - \tau \right] \sec \left[\alpha \right] + \sec \left[\alpha \right] \sin \left[\frac{\rho}{2} \right] \sin \left[\tau \right] \right]^2$

```
ln[28] = p1 = Plot[{cos13F[\pi/2-0.5, \pi/2, \rho], cos13F[\pi/2-0.7, \pi/2, \rho],}
           cos13F[\pi/2-1, \pi/2, \rho], cos13F[0, \pi/2, \rho]}, \{\rho, -\pi/2, \pi/2\}, PlotRange \rightarrow All,
         PlotStyle → {Directive[Darker[Green], Thickness[0.005], DotDashed],
            Directive[Darker[Red], Thickness[0.005], Dotted], Directive[Darker[Blue],
              Thickness [0.005], Dashed [1]], Directive [Darker [Orange], Thickness [0.005], Dashed]},
         Frame → True, FrameStyle → Directive[Black, Thick], LabelStyle → Large,
         Frame → True, FrameStyle → Directive[Black, Thick], LabelStyle → Large,
         PlotStyle → {Directive[Darker[Green], Thickness[0.007]]},
         FrameLabel \rightarrow \left\{ \left\| \rho \in \left[ -\frac{\pi}{2}, \frac{\pi}{2} \right] \right\|, \left\| \cos^2_{\mathcal{P}\mathcal{T}} \left( \left| \chi_1 \right\rangle, \left| \chi_3 \right\rangle \right) \left[ \rho \right] \right\| \right\},
         LabelStyle → {FontWeight → "Bold", FontSize → 25},
         ImageSize → 650, GridLinesStyle → Directive[Thick, Gray] ]
```



In[29]:= SecondPart[M0_, α _, τ _, ρ _] := Abs $\left[i \operatorname{Sin} \left[\frac{\rho}{2} \right] \right] \left(-i \operatorname{Sec} \left[\alpha \right] \operatorname{Sin} \left[\tau \right] \right) \left(\sqrt{\left(\frac{1}{1 + \cos \left[2 \alpha \right]} \left(-2 + 4 \operatorname{M0} - 2 \cos \left[2 \alpha \right] + \operatorname{M0} \operatorname{Cos} \left[2 \alpha - 2 \tau \right] - 2 \right) \right) \right)$ 2 M0 Cos [2 τ] + M0 Cos [2 α + 2 τ] + 2 $\sqrt{2}$ $\sqrt{(M0^2 (6 + 2 \cos [2 \alpha] +$ $\cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^{2} \sin[\tau]^{2})$ $(4 \text{ MO} + \text{MO Cos}[2 \alpha - 2 \tau] - 2 \text{ MO Cos}[2 \tau] + \text{MO Cos}[2 \alpha + 2 \tau] - 2 \text{ MO}$ $\cos [\alpha - \tau]^2 \sec [\alpha]^2 - 2 \text{ M0 } \cos [2 \alpha] \cos [\alpha - \tau]^2 \sec [\alpha]^2 - 2 \text{ M0 } \sec [\alpha]^2$ $\sin[\tau]^2 - 2 \text{ MO } \cos[2\alpha] \sec[\alpha]^2 \sin[\tau]^2 + 2 \sqrt{2} \sqrt{(\text{MO}^2 (6 + 2 \cos[2\alpha] + 2 \cos[\alpha]^2)^2 + 2 \cos[\alpha]^2)}$

```
\cos\left[2\alpha-2\tau\right]-2\cos\left[2\tau\right]+\cos\left[2\alpha+2\tau\right]\right)\sin\left[\alpha\right]^{2}\sin\left[\tau\right]^{2}\right)
       (8\sqrt{M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau]})\sin[\alpha]^2
                  Sin[\tau]^2) + \left(\sqrt{\frac{1}{1 + Cos[2\alpha]}} \left(-2 + 4M0 - 2Cos[2\alpha] + M0Cos[2\alpha - 2\tau] - \frac{1}{2}\right)\right)
                        2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] - 2 \sqrt{2} \sqrt{\left(\text{M0}^2\left(6 + 2\cos{[2\,\alpha]} + \right)^2\right)}
                                       \cos[2\alpha - 2\tau] - 2\cos[2\tau] + \cos[2\alpha + 2\tau]) \sin[\alpha]^2 \sin[\tau]^2)
            (-4 \text{ MO} - \text{MO Cos}[2 \alpha - 2 \tau] + 2 \text{ MO Cos}[2 \tau] - \text{MO Cos}[2 \alpha + 2 \tau] + 2 \text{ MO}
                   \cos [\alpha - \tau]^2 \sec [\alpha]^2 + 2 M0 \cos [2 \alpha] \cos [\alpha - \tau]^2 \sec [\alpha]^2 + 2 M0 \sec [\alpha]^2
                   \sin[\tau]^2 + 2 \,\text{MO} \,\cos[2\,\alpha] \,\sec[\alpha]^2 \,\sin[\tau]^2 + 2 \,\sqrt{2} \,\sqrt{\left(\text{MO}^2\,\left(6+2 \,\cos[2\,\alpha]+1\right)^2\right)^2}
                               \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \right) \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} \right) \bigg) \bigg| 
       (8\sqrt{M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau]})
                   Sin[\alpha]^2 Sin[\tau]^2) + Cos[\alpha + \tau] Sec[\alpha]
\left(\left[\dot{\text{i}}\,\text{Cos}\,[\alpha]\,\,\text{Cot}\,[\alpha]\,\,\text{Csc}\,[\tau]^{\,2}\,\,\sqrt{\left(\frac{1}{1+\text{Cos}\,[2\,\alpha]}\,\left(-\,2\,+\,4\,\text{M0}\,-\,2\,\text{Cos}\,[2\,\alpha]\,+\,\text{M0}\,\text{Cos}\,[2\,\alpha\,-\,2\,\tau]\,-\,4\,\text{M0}\,\right)}\right)}\right)
                        2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] - 2 \sqrt{2} \sqrt{\left(\text{M0}^2\left(6+2\cos\left[2\,\alpha\right]+\right)\right)}
                                       \cos[2\alpha - 2\tau] - 2\cos[2\tau] + \cos[2\alpha + 2\tau]) \sin[\alpha]^2 \sin[\tau]^2
            (4 \text{ MO} + \text{MO Cos}[2 \alpha - 2 \tau] - 2 \text{ MO Cos}[2 \tau] + \text{MO Cos}[2 \alpha + 2 \tau] - 2 \text{ MO}
                   \cos [\alpha - \tau]^2 \sec [\alpha]^2 - 2 M0 \cos [2 \alpha] \cos [\alpha - \tau]^2 \sec [\alpha]^2 -
                 2 M0 Sec [\alpha]^2 \sin[\tau]^2 - 2 M0 \cos[2 \alpha] \sec[\alpha]^2 \sin[\tau]^2 + 2 \sqrt{2}
                   \sqrt{(M0^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau])} \sin[\alpha]^2
                          Sin[\tau]^2) \left(-4 M0 - M0 Cos[2 \alpha - 2 \tau] + 2 M0 Cos[2 \tau] - M0 Cos[2 \alpha + 2 \tau] +
                 2 M0 Cos [\alpha - \tau]^2 Sec [\alpha]^2 + 2 M0 Cos [2 \alpha] Cos [\alpha - \tau]^2 Sec [\alpha]^2 + 2 M0 Sec [\alpha]^2
                   \sin[\tau]^2 + 2 \,\text{MO} \,\cos[2\,\alpha] \,\sec[\alpha]^2 \,\sin[\tau]^2 + 2 \,\sqrt{2} \,\sqrt{\left(\text{MO}^2\,\left(6+2 \,\cos[2\,\alpha]+1\right)\right)^2}
                               \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \right) \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} \right) \bigg) \bigg| \bigg/
       \left(32\,\text{M0}\,\left(1+\text{Cos}\,[2\,\alpha]\,\right)\,\sqrt{\,\left(\text{M0}^2\,\left(6+2\,\text{Cos}\,[2\,\alpha]\,+\text{Cos}\,[2\,\alpha-2\,\tau]\,-2\,\text{Cos}\,[2\,\tau]\,+\right)}\right)
                        Cos[2\alpha + 2\tau] Sin[\alpha]^2 Sin[\tau]^2) -
     \left( i \cos \left[ \alpha \right] \cot \left[ \alpha \right] \csc \left[ \tau \right]^{2} \sqrt{\left( \frac{1}{1 + \cos \left[ 2 \alpha \right]} \left( -2 + 4 M0 - 2 \cos \left[ 2 \alpha \right] + \frac{1}{1 + \cos \left[ 2 \alpha \right]} \right) \right)} \right)
                        M0 Cos [2 \alpha – 2 \tau] – 2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] +
                        2\sqrt{2}\sqrt{\left(\text{M0}^2\left(6+2\cos{[2\,\alpha]}+\cos{[2\,\alpha-2\,\tau]}-2\cos{[2\,\tau]}+\cos{[2\,\alpha+2\,\tau]}\right)}
                                  Sin[\alpha]^2 Sin[\tau]^2)) (4 M0 + M0 Cos[2 \alpha - 2 \tau] - 2 M0 Cos[2 \tau] +
                 M0 Cos [2 \alpha + 2 \tau] - 2 M0 Cos [\alpha - \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> - 2 M0 Cos [2 \alpha] Cos [\alpha - \tau]<sup>2</sup>
                   Sec[\alpha]^2 - 2 MO Sec[\alpha]^2 Sin[\tau]^2 - 2 MO Cos[2 \alpha] Sec[\alpha]^2 Sin[\tau]^2 +
                 2\sqrt{2}\sqrt{M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau]}
                          \operatorname{Sin}[\alpha]^2 \operatorname{Sin}[\tau]^2 \(\text{\text{\left}} \left( -4 \text{\text{M0}} - \text{M0} \text{Cos}[2 \alpha - 2 \tau] +
                 2 M0 Cos [2 \tau] - M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha - \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> +
                 2 M0 Cos [2 \alpha] Cos [\alpha - \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> + 2 M0 Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> +
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2 M0 Cos [2 \alpha] Sec [\alpha] ^{2} Sin [\tau] ^{2} + 2 \sqrt{2} \sqrt{M0^{2}(6 + 2 \cos[2 \alpha] + 2 \cos[2 \alpha])}
                                    \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \right) \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} \right) \bigg) \bigg| \bigg/
              (32 \, MO \, (1 + Cos \, [2 \, \alpha]) \, \sqrt{(MO^2 \, (6 + 2 \, Cos \, [2 \, \alpha] + Cos \, [2 \, \alpha - 2 \, \tau] - 2 \, Cos \, [2 \, \tau] + Cos \, [2 \, \alpha])}
                             \cos \left[2 \alpha + 2 \tau\right] \sin \left[\alpha\right]^2 \sin \left[\tau\right]^2 + \cos \left[\frac{\rho}{2}\right]
\left(\cos\left[\alpha-\tau\right]\,\sec\left[\alpha\right]\,\left(\left[\sqrt{\left(\frac{1}{1+\cos\left[2\,\alpha\right]}\,\left(-2+4\,\text{M0}-2\,\cos\left[2\,\alpha\right]+\text{M0}\,\cos\left[2\,\alpha-2\,\tau\right]\right.\right.\right)}\right)
                             2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] + 2 \sqrt{2} \sqrt{\left(\text{M0}^2\left(\text{6 + 2 Cos [2 }\alpha\right]\right.}\right)}
                                           \cos[2\alpha - 2\tau] - 2\cos[2\tau] + \cos[2\alpha + 2\tau]) \sin[\alpha]^2 \sin[\tau]^2)
                   (4 \text{ M0} + \text{M0 Cos}[2 \alpha - 2 \tau] - 2 \text{ M0 Cos}[2 \tau] + \text{M0 Cos}[2 \alpha + 2 \tau] - 2 \text{ M0}
                         \cos [\alpha - \tau]^2 \sec [\alpha]^2 - 2 \,\text{M0} \,\cos [2 \,\alpha] \,\cos [\alpha - \tau]^2 \,\sec [\alpha]^2 - 2 \,\text{M0} \,\sec [\alpha]^2
                         \sin[\tau]^2 - 2 \,\text{MO} \,\cos[2\,\alpha] \,\sec[\alpha]^2 \,\sin[\tau]^2 + 2 \,\sqrt{2} \,\sqrt{\left(\text{MO}^2\,\left(6+2 \,\cos[2\,\alpha]+1\right)^2\right)^2}
                                    \cos\left[2\alpha-2\tau\right]-2\cos\left[2\tau\right]+\cos\left[2\alpha+2\tau\right]\right)\sin\left[\alpha\right]^{2}\sin\left[\tau\right]^{2}\right)
              (8\sqrt{M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau]})
                         Sin[\alpha]^2 Sin[\tau]^2) +
            \sqrt{\left(\frac{1}{1 + \cos[2\alpha]} \left(-2 + 4 \,\text{M0} - 2 \,\cos[2\alpha] + \text{M0} \,\cos[2\alpha - 2\tau] - 2 \,\text{M0} \,\cos[2\tau] + \right)}
                             M0 Cos [2 \alpha + 2 \tau] - 2 \sqrt{2} \sqrt{(M0^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] -
                                           2 Cos [2 \tau] + Cos [2 \alpha + 2 \tau]) Sin [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup>))) (-4 M0 -
                       M0 Cos [2 \alpha - 2 \tau] + 2 M0 Cos [2 \tau] - M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha - \tau]^2
                         Sec[\alpha]^2 + 2 M0 Cos[2 \alpha] Cos[\alpha - \tau]^2 Sec[\alpha]^2 + 2 M0 Sec[\alpha]^2 Sin[\tau]^2 +
                       2 M0 Cos [2 \alpha] Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> + 2 \sqrt{2} \sqrt{(M0^2 (6 + 2 \cos [2 \alpha] +
                                    \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \right) \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} \right) \bigg) \bigg| \bigg/
              \left(8\,\sqrt{\,\left(\text{M0}^2\,\left(6+2\,\text{Cos}\,[2\,\alpha]\,+\,\text{Cos}\,[2\,\alpha-2\,\tau]\,-2\,\text{Cos}\,[2\,\tau]\,+\,\text{Cos}\,[2\,\alpha+2\,\tau]\,\right)}\right.
                        Sin[\alpha]^2 Sin[\tau]^2)
    2 Cos [2 \alpha] + M0 Cos [2 \alpha - 2 \tau] - 2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] -
                             2\sqrt{2}\sqrt{(M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau])}
                                       Sin[\alpha]^2 Sin[\tau]^2))) (4 M0 + M0 Cos[2 \alpha - 2 \tau] - 2 M0 Cos[2 \tau] +
                      M0 Cos [2 \alpha + 2 \tau] - 2 M0 Cos [\alpha - \tau] ^2 Sec [\alpha] ^2 - 2 M0 Cos [2 \alpha] Cos [\alpha - \tau] ^2
                         Sec[\alpha]^2 - 2 MO Sec[\alpha]^2 Sin[\tau]^2 - 2 MO Cos[2 \alpha] Sec[\alpha]^2 Sin[\tau]^2 +
                       2\sqrt{2}\sqrt{(M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau])}
                                Sin[\alpha]^2 Sin[\tau]^2) \left(-4 MO - MO Cos[2 \alpha - 2 \tau] +
                       2 M0 Cos [2 \tau] - M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha - \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> +
                       2 M0 Cos [2 \alpha] Cos [\alpha - \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> + 2 M0 Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> +
                       2 M0 Cos [2 \alpha] Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> + 2 \sqrt{2} \sqrt{(M0^2 (6 + 2 \cos [2 \alpha] + \cos (2 \alpha))^2)}
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\cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} 
                                                                          (32 \text{ MO} (1 + \cos[2 \alpha]) \sqrt{(\text{MO}^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha])}
                                                                                                                        Cos[2\alpha + 2\tau]) Sin[\alpha]^2 Sin[\tau]^2) -
                                                                   \left( i \cos \left[ \alpha \right] \cot \left[ \alpha \right] \csc \left[ \tau \right]^{2} \sqrt{\left( \frac{1}{1 + \cos \left[ 2 \alpha \right]} \left( -2 + 4 M \theta - 2 \cos \left[ 2 \alpha \right] + 1 \right) \right)} \right)
                                                                                                                        M0 Cos [2 \alpha - 2 \tau] - 2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] +
                                                                                                                        2\sqrt{2}\sqrt{(M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau])}
                                                                                                                                                   Sin[\alpha]^2 Sin[\tau]^2)) (4 M0 + M0 Cos[2 \alpha - 2 \tau] - 2 M0 Cos[2 \tau] +
                                                                                                   M0 Cos [2 \alpha + 2 \tau] - 2 M0 Cos [\alpha - \tau] 2 Sec [\alpha] 2 - 2 M0 Cos [2 \alpha] Cos [\alpha - \tau] 2
                                                                                                           Sec[\alpha]^2 - 2 M0 Sec[\alpha]^2 Sin[\tau]^2 - 2 M0 Cos[2 \alpha] Sec[\alpha]^2 Sin[\tau]^2 +
                                                                                                    2\sqrt{2}\sqrt{(M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau])}
                                                                                                                               Sin[\alpha]^2 Sin[\tau]^2) (-4 MO - MO Cos[2 \alpha - 2 \tau] +
                                                                                                    2 M0 Cos [2 \tau] - M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha - \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> +
                                                                                                    2 M0 Cos [2 \alpha] Cos [\alpha - \tau]<sup>2</sup> Sec [\alpha]<sup>2</sup> + 2 M0 Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> +
                                                                                                    2 M0 Cos [2 \alpha] Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> + 2 \sqrt{2} \sqrt{M0^2 (6 + 2 \cos[2 \alpha] + 2 \cos[2 \alpha])}
                                                                                                                                             \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \right) \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} \right) \bigg) \bigg| \bigg/
                                                                          \left(32\,\text{M0}\,\left(1+\text{Cos}\,[2\,\alpha]\right)\,\sqrt{\,\left(\text{M0}^2\,\left(6+2\,\text{Cos}\,[2\,\alpha]\,+\,\text{Cos}\,[2\,\alpha-2\,\tau]\,-2\,\text{Cos}\,[2\,\tau]\,+\right)}\right)
                                                                                                                      Cos[2\alpha + 2\tau]) Sin[\alpha]^2 Sin[\tau]^2))
Abs \left[\cos\left[\frac{\rho}{2}\right] \left(-i\operatorname{Sec}\left[\alpha\right]\operatorname{Sin}\left[\tau\right]\right) \left(\sqrt{\frac{1}{1+\cos\left[2\,\alpha\right]}} \left(-2+4\operatorname{M0}-2\cos\left[2\,\alpha\right]+\operatorname{M0}\cos\left[2\,\alpha-2\,\tau\right]-2\operatorname{M0}\right) \left(-2+4\operatorname{M0}-2\cos\left[2\,\alpha\right]+\operatorname{M0}\cos\left[2\,\alpha-2\,\tau\right]\right) - \left(-2+4\operatorname{M0}-2\cos\left[2\,\alpha\right]+\operatorname{M0}\cos\left[2\,\alpha\right]\right) - \left(-2+4\operatorname{M0}-2\cos\left[2\,\alpha\right]\right) - \left(-2+4\operatorname{M0}-2\cos\left[2\,\alpha\right]\right)
                                                                                                                       2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] – 2 \sqrt{2} \sqrt{\left(\text{M0}^2\left(6+2\cos\left[2\,\alpha\right]\right.+\right.}
                                                                                                                                                                  \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^{2} \sin[\tau]^{2})
                                                                                        (4 \text{ MO} + \text{MO Cos}[2 \alpha - 2 \tau] - 2 \text{ MO Cos}[2 \tau] + \text{MO Cos}[2 \alpha + 2 \tau] - 2 \text{ MO}
                                                                                                           \cos [\alpha - \tau]^2 \sec [\alpha]^2 - 2 \,\text{M0} \,\cos [2 \,\alpha] \,\cos [\alpha - \tau]^2 \,\sec [\alpha]^2 - 2 \,\text{M0} \,\sec [\alpha]^2
                                                                                                           \sin[\tau]^2 - 2 \,\text{MO Cos}[2 \,\alpha] \, \sec[\alpha]^2 \, \sin[\tau]^2 + 2 \, \sqrt{2} \, \sqrt{\,(\text{MO}^2\,(6+2 \, \text{Cos}[2 \,\alpha] + 1)^2 \, \text{MO}^2\,(6+2 \, \text{Cos
                                                                                                                                             \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \right) \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} \right) \bigg) \bigg/
                                                                          (8\sqrt{M0^2(6+2\cos[2\alpha]+\cos[2\alpha-2\tau]-2\cos[2\tau]+\cos[2\alpha+2\tau]})
                                                                                                           Sin[\alpha]^2 Sin[\tau]^2) +
                                                                   \sqrt{\left(\frac{1}{1 + \cos[2\alpha]} \left(-2 + 4 \,\text{M0} - 2 \,\cos[2\alpha] + \text{M0} \,\cos[2\alpha - 2\tau] - 2 \,\text{M0} \,\cos[2\tau] + \right)}
                                                                                                                        M0 Cos [2 \alpha + 2 \tau] + 2 \sqrt{2} \sqrt{(M0^2 (6 + 2 \cos [2 \alpha] + \cos [2 \alpha - 2 \tau] -
                                                                                                                                                                  2 \cos \left[2 \tau\right] + \cos \left[2 \alpha + 2 \tau\right] \sin \left[\alpha\right]^2 \sin \left[\tau\right]^2
                                                                                                   M0 Cos [2 \alpha – 2 \tau] + 2 M0 Cos [2 \tau] – M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha – \tau] ^2
                                                                                                           Sec[\alpha]^2 + 2 MO Cos[2 \alpha] Cos[\alpha - \tau]^2 Sec[\alpha]^2 + 2 MO Sec[\alpha]^2 Sin[\tau]^2 +
                                                                                                    2 M0 Cos [2 \alpha] Sec [\alpha]<sup>2</sup> Sin [\tau]<sup>2</sup> + 2 \sqrt{2} \sqrt{(M0^2 (6 + 2 \cos [2 \alpha] +
                                                                                                                                             \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \right) \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2} \right) \bigg) \bigg| \bigg/
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$$\left(8 \sqrt{\left(\text{MO}^2 \left(6 + 2 \cos \left[2 \, \alpha \right] + \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \cos \left[2 \, \tau \right] + \cos \left[2 \, \alpha + 2 \, \tau \right] \right) } \right)$$

$$Sin\left[\alpha \right]^2 Sin\left[\tau \right]^2 \right) \right) +$$

$$Cos\left[\alpha - \tau \right] Sec\left[\alpha \right] \left(-\left(\left[i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \text{Sec}\left[\alpha \right] \sin \left[\tau \right]^2 \right) \sqrt{\left(\frac{1}{1 + \cos \left[2 \, \alpha \right]} \right)} \right) \right)$$

$$\left(-2 + 4 \, \text{MO} - 2 \cos \left[2 \, \alpha \right] + \text{MO} \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \text{MO} \cos \left[2 \, \alpha + 2 \, \tau \right] - 2 \cos \left[2 \, \alpha + 2 \, \tau \right] \right)$$

$$2 \sqrt{2} \sqrt{\left(\text{MO}^2 \left(6 + 2 \cos \left[2 \, \alpha \right] + \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \cos \left[2 \, \tau \right] + \text{MO} \cos \left[2 \, \alpha + 2 \, \tau \right] \right)} \right)$$

$$Sin\left[\alpha \right]^2 Sin\left[\tau \right]^2 \right) \right) \right) Tan\left[\alpha \right) \right) / \left(2 \sqrt{\left(\text{MO}^2 \left(6 + 2 \cos \left[2 \, \alpha + 2 \, \tau \right] \right)} \right) \right) +$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) Sec\left[\alpha \right] Sin\left[\tau \right]^2 \right) \sqrt{\left(\frac{1}{1 + \cos \left[2 \, \alpha \right]} \left(-2 + 4 \, \text{MO} - 2 \cos \left[2 \, \alpha \right] + \text{MO} \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \text{MO} \cos \left[2 \, \alpha + 2 \, \tau \right] \right)} \right) \right) +$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) Sec\left[\alpha \right] Sin\left[\tau \right]^2 \right) \sqrt{\left(\frac{1}{1 + \cos \left[2 \, \alpha \right]} \left(-2 + 4 \, \text{MO} - 2 \cos \left[2 \, \alpha \right] + \text{MO} \cos \left[2 \, \alpha + 2 \, \tau \right] \right)} \right) \right) +$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) Sec\left[\alpha \right] Sin\left[\tau \right]^2 \right) \sqrt{\left(\frac{1}{1 + \cos \left[2 \, \alpha \right]} \left(-2 + 4 \, \text{MO} - 2 \cos \left[2 \, \tau \right] + \text{MO} \cos \left[2 \, \alpha + 2 \, \tau \right] \right)} \right) \right) +$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) Sec\left[\alpha \right] Sin\left[\tau \right]^2 \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \right) \right) \right) \right)$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) Sec\left[\alpha \right] Sin\left[\tau \right]^2 \right) \right) \right) \right) \right)$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) Sec\left[\alpha \right] Sin\left[\tau \right]^2 \right) \right) \right) \right) \right)$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) Sec\left[\alpha \right] Sin\left[\tau \right]^2 \right) \right) \right) \right) \right) \right)$$

$$\left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right) \right) \right) \right) \right) \right) \right) \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right] \right) \right) \right) \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right) \right) \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[2 \, \alpha \right) \right) \right) \right) \right) \right) \left(i \, \text{MO} \left(1 + \cos \left[$$

$$\begin{split} \sin(\alpha)^2 \sin(\tau)^2) \Big) - \\ & \pm \operatorname{Sec}[\alpha] \sin[\tau] \left(-\left(\left[\operatorname{iM0} \left(1 + \cos[2\,\alpha] \right) \operatorname{Sec}[\alpha] \operatorname{Sin}[\tau]^2 \sqrt{\left(\frac{1}{1 + \cos[2\,\alpha]} \right)} \right] \right) \\ & \left(-2 + 4\operatorname{M0} - 2 \operatorname{Cos}[2\,\alpha] + \operatorname{M0} \operatorname{Cos}[2\,\alpha - 2\,\tau] - 2\operatorname{M0} \operatorname{Cos}[2\,\tau] + \operatorname{M0} \operatorname{Cos}[2\,\alpha + 2\,\tau] - 2\sqrt{2} \sqrt{\left(\operatorname{M0}^2 \left(6 + 2 \operatorname{Cos}[2\,\alpha] + \operatorname{H0} \operatorname{Cos}[2\,\alpha - 2\,\tau] - 2\operatorname{Cos}[2\,\tau] + \operatorname{Cos}[2\,\alpha + 2\,\tau] \right)} \right) \\ & - 2\sqrt{2} \sqrt{\left(\operatorname{M0}^2 \left(6 + 2 \operatorname{Cos}[2\,\alpha] + \operatorname{Cos}[2\,\alpha - 2\,\tau] - 2\operatorname{Cos}[2\,\tau] + \operatorname{Cos}[2\,\alpha + 2\,\tau] \right)} \\ & - \operatorname{Sin}[\alpha]^2 \operatorname{Sin}[\tau]^2) \Big) \int \operatorname{Tan}[\alpha] \Big/ \left(2\sqrt{\left(\operatorname{M0}^2 \left(6 + 2 \operatorname{Cos}[2\,\alpha] + \operatorname{Cos}[2\,\alpha + 2\,\tau] \right) \operatorname{Sin}[\alpha]^2 \operatorname{Sin}[\tau]^2 \right)} \right) + \\ & \left(\operatorname{iM0} \left(1 + \operatorname{Cos}[2\,\alpha] \right) \operatorname{Sec}[\alpha] \operatorname{Sin}[\tau]^2 \sqrt{\left(\frac{1}{1 + \operatorname{Cos}[2\,\alpha]} \left(-2 + 4\operatorname{M0} - 2\operatorname{Cos}[2\,\alpha] + \operatorname{M0} \operatorname{Cos}[2\,\alpha - 2\,\tau] - 2\operatorname{M0} \operatorname{Cos}[2\,\tau] + \operatorname{M0} \operatorname{Cos}[2\,\alpha + 2\,\tau] \right)} \\ & - 2\operatorname{Cos}[2\,\alpha] + \operatorname{M0} \operatorname{Cos}[2\,\alpha - 2\,\tau] - 2\operatorname{M0} \operatorname{Cos}[2\,\tau] + \operatorname{M0} \operatorname{Cos}[2\,\alpha + 2\,\tau] + 2\sqrt{2} \sqrt{\left(\operatorname{M0}^2 \left(6 + 2\operatorname{Cos}[2\,\alpha] + \operatorname{Cos}[2\,\alpha] + \operatorname{Cos}[2\,\alpha - 2\,\tau] - 2\operatorname{Cos}[2\,\tau] + \operatorname{Cos}[2\,\alpha + 2\,\tau] \right)} \\ & - \operatorname{Cos}[2\,\alpha + 2\,\tau] \operatorname{Sin}[\alpha]^2 \operatorname{Sin}[\tau]^2 \Big) \right) \right) \right] \operatorname{Tan}[\alpha] \Big] \Big/ \\ & + \operatorname{Cos}[2\,\alpha] \operatorname{Sin}[\tau]^2 \operatorname{Sin}[\tau]^2 \Big) \Big) \operatorname{Cos}[2\,\alpha] \operatorname{Sin}[\tau]^2 + \operatorname{Abs}[-\operatorname{i}\operatorname{Cos}[2\,\alpha] - \operatorname{i}\operatorname{Sin}[\frac{\rho}{2}] \operatorname{Tan}[\alpha]]^2 + \operatorname{Abs}[-\operatorname{i}\operatorname{Cos}[\frac{\rho}{2}] \operatorname{Sec}[\alpha] - \operatorname{i}\operatorname{Sin}[\frac{\rho}{2}] \operatorname{Tan}[\alpha]]^2 \Big) \Big/ \\ & - \operatorname{Abs}[-\operatorname{i}\operatorname{Cos}[\frac{\rho}{2}] \operatorname{Sec}[\alpha] - \operatorname{i}\operatorname{Sin}[\alpha]^2 \operatorname{Tan}[\alpha]]^2 + \operatorname{Abs}[\operatorname{Cos}[\frac{\rho}{2}] \operatorname{Sec}[\alpha] - \operatorname{i}\operatorname{Sin}[\alpha]^2 \operatorname{Mo}[\alpha]^2 \Big) \Big) \operatorname{Tan}[\alpha] \Big) \Big/ \\ & + \operatorname{Abs}[-\operatorname{i}\operatorname{Cos}[\frac{\rho}{2}] \operatorname{Sec}[\alpha] - \operatorname{i}\operatorname{Sin}[\alpha]^2 \operatorname{Sec}[\alpha] - \operatorname{i}\operatorname{Sin}[\alpha]^2 \Big) \Big) + \operatorname{Abs}[-\operatorname{i}\operatorname{Cos}[2\,\alpha] - \operatorname{i}\operatorname{Sin}[\alpha]^2 \operatorname{Mo}[\alpha]^2 \Big) \Big) \operatorname{Sec}[\alpha] \Big) \Big) \operatorname{Sec}[\alpha] \Big) \Big) \Big(\operatorname{Abs}[-\operatorname{In}[\alpha]] \Big) \Big) \Big) \Big) \Big) \Big) \Big) \Big) \Big(\operatorname{In}[\alpha] \Big) \Big) \Big) \Big) \Big) \Big) \Big) \Big) \Big) \Big(\operatorname{In}[\alpha] \Big) \Big) \Big) \Big) \Big(\operatorname{In}[\alpha] \Big) \Big) \Big) \Big) \Big(\operatorname{In}[\alpha] \Big) \Big) \Big) \Big) \Big) \Big(\operatorname{In}[\alpha] \Big) \Big) \Big) \Big(\operatorname{In}[\alpha] \Big) \Big) \Big) \Big) \Big) \Big(\operatorname{In}[\alpha] \Big) \Big) \Big) \Big(\operatorname{In}$$

$$\frac{ \text{i} \ \text{N0} \ \left(\text{1} + \text{Cos} \left[\text{2} \, \alpha \right] \right) \ \text{Sec} \left[\alpha \right] \ \sqrt{ \frac{-2 + 6 \ \text{N0} - 2 \ \text{Cos} \left[2 \, \alpha \right] - 2 \ \text{N0} \ \text{Cos} \left[2 \, \alpha \right] + 8 \ \sqrt{\text{N0}^2 \ \text{Sin} \left[\alpha \right]^2} }{1 + \text{Cos} \left[2 \, \alpha \right]}} \ \text{Tan} \left[\alpha \right] }{4 \ \sqrt{2} \ \sqrt{\text{N0}^2 \ \text{Sin} \left[\alpha \right]^2}} \right] - \text{i} \ \text{Sec} \left[\frac{1}{2} \right]$$

$$\alpha] \left(\frac{1}{16\sqrt{2} \sqrt{\mathsf{N}\theta^2 \operatorname{Sin}[\alpha]^2}} \right) - \frac{2 + 6 \, \mathsf{N}\theta - 2 \, \mathsf{Cos}[2\,\alpha] - 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] - 8 \, \sqrt{\mathsf{N}\theta^2 \operatorname{Sin}[\alpha]^2}}{1 + \mathsf{Cos}[2\,\alpha]} \right) \\ - \left(6 \, \mathsf{N}\theta - 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] - 2 \, \mathsf{N}\theta \, \mathsf{Sec}[\alpha]^2 - 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] \, \mathsf{Sec}[\alpha]^2 + 8 \, \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin}[\alpha]^2} - 2 \, \mathsf{N}\theta \, \mathsf{Tan}[\alpha]^2 - 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] \, \mathsf{Tan}[\alpha]^2 \right) + \\ - \frac{1}{16\sqrt{2} \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin}[\alpha]^2}} \sqrt{\frac{-2 + 6 \, \mathsf{N}\theta - 2 \, \mathsf{Cos}[2\,\alpha] - 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] + 8 \, \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin}[\alpha]^2}}{1 + \mathsf{Cos}[2\,\alpha]}} \\ - \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] + 2 \, \mathsf{N}\theta \, \mathsf{Sec}[\alpha]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] + 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] + 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] + 8 \, \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin}[\alpha]^2}} \right) \\ - \frac{1}{2} \, \mathsf{N}\theta \, \mathsf{Tan}[\alpha]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos}[2\,\alpha] \, \mathsf{Tan}[\alpha]^2 \right) + 1 \, \mathsf{Sin}[\frac{\rho}{2}] - 1 \, \mathsf{Sec}[\alpha]} \\ - \frac{1}{2} \, \mathsf{N}\theta \, \mathsf{N}\theta$$

$$8\sqrt{\mathsf{N}\Theta^2 \operatorname{Sin}[\alpha]^2} + 2 \operatorname{N\Theta} \operatorname{Tan}[\alpha]^2 + 2 \operatorname{N\Theta} \operatorname{Cos}[2\,\alpha] \operatorname{Tan}[\alpha]^2 \bigg) \bigg| \bigg|_1^2 + \operatorname{Abs} \bigg[\operatorname{Cos} \Big[\frac{\alpha}{2}\Big] \bigg] \bigg| \bigg|_1^2 + \operatorname{Abs} \bigg[\operatorname{Cos} \Big[\frac{\alpha}{2}\Big] \bigg] \bigg| \bigg|_1^2 + \operatorname{Abs} \bigg[\operatorname{Cos} \Big[\frac{\alpha}{2}\Big] \bigg| \bigg|_1^2 \bigg|$$

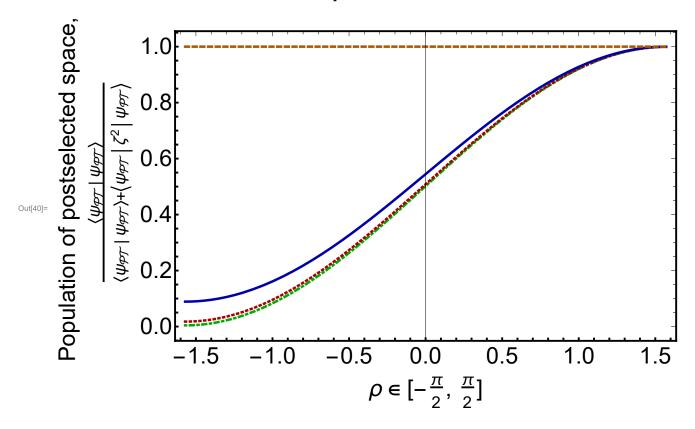
$$\left(-6\,\mathsf{N}\theta + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha] + 2\,\mathsf{N}\theta\,\mathsf{Sec}\,[\alpha]^2 + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Sec}\,[\alpha]^2 + \\ 8\,\sqrt{\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} + 2\,\mathsf{N}\theta\,\mathsf{Tan}\,[\alpha]^2 + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) \right) / \\ \left(64\,\sqrt{2}\,\,\mathsf{N}\theta\,\left(1 + \mathsf{Cos}\,[2\,\alpha] \right)\,\sqrt{\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} \,\right) \right) + i\,\mathsf{Sin}\left[\frac{\alpha}{2}\right] \left[-i\,\mathsf{Sec}\,[\alpha] \right] \\ \left(\frac{1}{16\,\sqrt{2}}\,\sqrt{\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} \,\right) / \\ \left(\frac{2 + 6\,\mathsf{N}\theta - 2\,\mathsf{Cos}\,[2\,\alpha] - 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha] + 8\,\sqrt{\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} }{1 + \mathsf{Cos}\,[2\,\alpha]} \right) \\ \left(\frac{6\,\mathsf{N}\theta - 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha] - 2\,\mathsf{N}\theta\,\mathsf{Sec}\,[\alpha]^2 - 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Sec}\,[\alpha]^2 + \\ 8\,\sqrt{\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} - 2\,\mathsf{N}\theta\,\mathsf{Tan}\,[\alpha]^2 - 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) + \\ \frac{1}{16\,\sqrt{2}}\,\sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} \\ \left(-6\,\mathsf{N}\theta + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha] + 2\,\mathsf{N}\theta\,\mathsf{Sec}\,[\alpha]^2 + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Sec}\,[\alpha]^2 + \\ 8\,\sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} + 2\,\mathsf{N}\theta\,\mathsf{Tan}\,[\alpha]^2 + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) \right) - \\ \mathsf{Tan}\,[\alpha] \\ \left(\frac{i\,\mathsf{Cos}\,[\alpha]\,\mathsf{Cot}\,[\alpha]}{i\,\mathsf{Cos}\,[\alpha]}\,\sqrt{\,\frac{-2 + 6\,\mathsf{N}\theta - 2\,\mathsf{Cos}\,[2\,\alpha] - 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha] \,\mathsf{Sec}\,[\alpha]^2 + 8\,\sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} } \\ 2\,\mathsf{N}\theta\,\mathsf{Tan}\,[\alpha]^2 - 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) \left(-6\,\mathsf{N}\theta + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha] + \\ 2\,\mathsf{N}\theta\,\mathsf{Sec}\,[\alpha]^2 + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Sec}\,[\alpha]^2 + 8\,\sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} + 2\,\mathsf{N}\theta\,\mathsf{Tan}\,[\alpha]^2 + \\ 2\,\mathsf{N}\theta\,\mathsf{Sec}\,[\alpha]^2 + 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Sec}\,[\alpha]^2 + 8\,\sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} + 2\,\mathsf{N}\theta\,\mathsf{Tan}\,[\alpha]^2 + \\ 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) \right) / \left(\frac{64\,\sqrt{2}\,\mathsf{N}\theta\,\left(1 + \mathsf{Cos}\,[2\,\alpha]\right) \sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} - 1 - \\ 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) / \left(\frac{64\,\sqrt{2}\,\mathsf{N}\theta\,\left(1 + \mathsf{Cos}\,[2\,\alpha]\right) \sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} - 1 - \\ 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) / \left(\frac{64\,\sqrt{2}\,\mathsf{N}\theta\,\left(1 + \mathsf{Cos}\,[2\,\alpha]\right) \sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} - 1 - \\ 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) / \left(\frac{64\,\sqrt{2}\,\mathsf{N}\theta\,\left(1 + \mathsf{Cos}\,[2\,\alpha]\right) \sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} - 1 - \\ 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) / \left(\frac{64\,\sqrt{2}\,\mathsf{N}\theta\,\left(1 + \mathsf{Cos}\,[2\,\alpha]\right) \sqrt{\,\mathsf{N}\theta^2\,\mathsf{Sin}\,[\alpha]^2} - 1 - \\ 2\,\mathsf{N}\theta\,\mathsf{Cos}\,[2\,\alpha]\,\mathsf{Tan}\,[\alpha]^2 \right) / \left(\frac{64\,\sqrt{2}\,\mathsf{N}\theta\,\left(1 + \mathsf{Cos}\,[2\,\alpha]\right) / \left(\frac{64\,\sqrt{2}\,\mathsf{N}\theta$$

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 \begin{tabular}{l} $\dot{\textbf{1}}$ $Cos[$\alpha$] $Cot[$\alpha$] $ $\sqrt{$-2+6\,N0-2\,Cos[$2\,\alpha$] - 2\,N0\,Cos[$2\,\alpha$] + 8\,\sqrt{N0^2\,Sin[$\alpha$]^2} } \\ \hline  & 1 + Cos[$2\,\alpha$] \\ \end{tabular} 
                                                                                                        ^{\prime} 6 N0 ^{\prime} 2 N0 Cos [2 lpha] ^{\prime} 2 N0 Sec [lpha] ^{2} ^{\prime} 2 N0 Cos [2 lpha] Sec [lpha] ^{2} + 8 \sqrt{ N0^{2} Sin [lpha] ^{2} ^{\prime}
                                                                                                              2 N0 Tan [\alpha]^2 – 2 N0 Cos [2\alpha] Tan [\alpha]^2 \left(-6 N0 + 2 N0 Cos [2\alpha] +
                                                                                                               2 N0 Sec [\alpha]^2 + 2 N0 Cos [2\alpha] Sec [\alpha]^2 + 8 \sqrt{\text{N0}^2 \sin [\alpha]^2} + 2 N0 Tan [\alpha]^2 +
                                                                                                             2\,\mathsf{N0}\,\mathsf{Cos}\,[\,2\,\alpha]\,\,\mathsf{Tan}\,[\,\alpha\,]^{\,2}\bigg)\,\Bigg|\,\Bigg/\,\left(64\,\sqrt{2}\,\,\mathsf{N0}\,\left(1+\mathsf{Cos}\,[\,2\,\alpha\,]\,\right)\,\sqrt{\mathsf{N0}^{2}\,\mathsf{Sin}\,[\,\alpha\,]^{\,2}}\,\right)\,\Bigg|\,\Bigg|\,\Bigg|^{\,2}\Bigg|
\ln[31] = \text{DecisiveProbability}[M0\_, \alpha\_, \tau \text{Perp}\_, \rho\_] := \left( \text{Abs} \left[ \text{Sec} \left[ \alpha \right] \, \text{Sin} \left[ \rho \, \middle/ \, 2 \right] + \text{Cos} \left[ \rho \, \middle/ \, 2 \right] \, \text{Tan} \left[ \alpha \right] \, \right]^2 + \left( \ln[31] + \ln[31
                                           Abs \left[-i \cos \left[\rho/2\right] \sec \left[\alpha\right] - i \sin \left[\rho/2\right] \tan \left[\alpha\right]\right]^{2}\right)
                                  \left( \text{Abs} \left[ \text{Sec} \left[ \alpha \right] \, \text{Sin} \left[ \rho / 2 \right] + \text{Cos} \left[ \rho / 2 \right] \, \text{Tan} \left[ \alpha \right] \right]^2 + \right)
                                           Abs \left[-i \cos \left[\rho/2\right] \sec \left[\alpha\right] - i \sin \left[\rho/2\right] \tan \left[\alpha\right]\right]^2 +
                                           Abs \left[\cos\left[\rho\right/2\right] \left(\tan\left[\alpha\right]\right) \left(-\left(\ln M0\left(1+\cos\left[2\alpha\right]\right)\right) Sec \left[\alpha\right] \sqrt{\left(-2+6M0-2\cos\left[2\alpha\right]-4\right)}
                                                                                                                                             2\,\text{M0}\,\text{Cos}\,[2\,\alpha]\,-\,8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^{\,2}\right)\,\big)\,\left(\text{1}+\text{Cos}\,[2\,\alpha]\,\right)\,\big)\,\,\text{Tan}\,[\alpha]\,\big)\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right)\,\,\text{Tan}\,[\alpha]\,\big)\,\,\left/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\right/\,\left(4\times\sqrt{2}\,\text{Cos}\,[2\,\alpha]\,\right)\,\,
                                                                                                                    \sqrt{\left(\text{M0}^2 \operatorname{Sin}[\alpha]^2\right)} + \left(\text{i} \operatorname{M0}\left(1 + \operatorname{Cos}[2\alpha]\right) \operatorname{Sec}[\alpha] \sqrt{\left(-2 + 6 \operatorname{M0} - 2 \operatorname{Cos}[\alpha]\right)}\right)
                                                                                                                                              [2\alpha] - 2M0 \cos[2\alpha] + 8\sqrt{(M0^2 \sin[\alpha]^2)}/(1 + \cos[2\alpha]) Tan[\alpha])
                                                                                                (4 \times \sqrt{2} \sqrt{(M0^2 \operatorname{Sin}[\alpha]^2)}) - i \operatorname{Sec}[\alpha] ((1/(16 \times \sqrt{2} \sqrt{(M0^2 \operatorname{Sin}[\alpha]^2)}))
                                                                                               \sqrt{\left(\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]-8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)\right)}/\left(1+\text{Cos}\,[2\,\alpha]\right)\right)}
                                                                                                      (6 \text{ MO} - 2 \text{ MO Cos}[2 \alpha] - 2 \text{ MO Sec}[\alpha]^2 - 2 \text{ MO Cos}[2 \alpha] \text{ Sec}[\alpha]^2 + 8 \sqrt{(\text{MO}^2 \text{Sin}[\alpha]^2)} -
                                                                                                               2 M0 Tan [\alpha]^2 - 2 M0 Cos [2 \alpha] Tan [\alpha]^2 + (1/(16 \times \sqrt{2} \sqrt{(M0^2 \sin[\alpha]^2)}))
                                                                                               \sqrt{\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]+8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)}\right)/\left(1+\text{Cos}\,[2\,\alpha]\right)}
                                                                                                     (-6 MO + 2 MO Cos [2 \alpha] + 2 MO Sec [\alpha]^2 + 2 MO Cos [2 \alpha] Sec [\alpha]^2 +
                                                                                                               8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2) + +
                                                           i Sin[\rho/2] (-i Sec[\alpha] (-(i M0 (1 + Cos[2 \alpha]) Sec[\alpha] \sqrt{((-2 + 6 M0 - 2 Cos[2 \alpha] - (-1 M0 (1 + Cos[2 \alpha]) Sec[\alpha])})
                                                                                                                                              2 M0 Cos [2 \alpha] - 8 \sqrt{(M0^2 \sin[\alpha]^2)} / (1 + Cos [2 \alpha])) Tan [\alpha]) /
                                                                                                           (4 \times \sqrt{2} \sqrt{(M0^2 \sin[\alpha]^2)})) + (i M0 (1 + \cos[2\alpha]) \sec[\alpha]
                                                                                                          \sqrt{\left(\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]+8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)\right)}/\left(1+\text{Cos}\,[2\,\alpha]\right)\right)}
                                                                                                         Tan[\alpha]) / (4 \times \sqrt{2} \sqrt{(M0^2 Sin[\alpha]^2)})) -
                                                                          Tan[\alpha] \left( \left( 1 / \left( 16 \times \sqrt{2} \sqrt{(M0^2 Sin[\alpha]^2)} \right) \right) \sqrt{\left( \left( -2 + 6M0 - 2Cos[2\alpha] - M0 + 2Cos[\alpha] \right) \right)} \right)
                                                                                                                              2 M0 Cos [2 \alpha] - 8 \sqrt{(M0^2 \sin[\alpha]^2)} / (1 + Cos [2 \alpha]))
                                                                                                      (6 \text{ MO} - 2 \text{ MO Cos}[2 \alpha] - 2 \text{ MO Sec}[\alpha]^2 - 2 \text{ MO Cos}[2 \alpha] \text{ Sec}[\alpha]^2 + 8 \sqrt{(\text{MO}^2 \text{Sin}[\alpha]^2)} -
                                                                                                               2 M0 Tan [\alpha]^2 - 2 M0 Cos [2\alpha] Tan [\alpha]^2) + (1/(16 \times \sqrt{2} \sqrt{(M0^2 \sin [\alpha]^2)}))
                                                                                               \sqrt{\left(\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]+8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)\right)}/\left(1+\text{Cos}\,[2\,\alpha]\right)\right)}
                                                                                                      (-6 MO + 2 MO Cos [2 \alpha] + 2 MO Sec [\alpha]^2 + 2 MO Cos [2 \alpha] Sec [\alpha]^2 +
                                                                                                               8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2)))^2 +
                                           Abs \left[\cos\left[\rho/2\right]\left(\tan\left[\alpha\right]\left(\left(1/\left(16\times\sqrt{2}\sqrt{\left(\text{M0}^2\sin\left[\alpha\right]^2\right)}\right)\right)\sqrt{\left(\left(-2+6\,\text{M0}-2\cos\left[2\,\alpha\right]-1\right)\right)}\right)\right]
                                                                                                                              2 \text{ M0 Cos}[2 \alpha] + 8 \sqrt{(\text{M0}^2 \text{Sin}[\alpha]^2)} / (1 + \text{Cos}[2 \alpha])
                                                                                                      (6 \text{ MO} - 2 \text{ MO Cos} [2 \alpha] - 2 \text{ MO Sec} [\alpha]^2 - 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 + 8 \sqrt{(\text{MO}^2 \text{Sin} [\alpha]^2)} -
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2 M0 Tan[\alpha]<sup>2</sup> - 2 M0 Cos[2 \alpha] Tan[\alpha]<sup>2</sup>) + (1 / (16 × \sqrt{2} \sqrt{(M0^2 \sin[\alpha]^2)}))
                                            \sqrt{\left(\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]-8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)}\right)/\left(1+\text{Cos}\,[2\,\alpha]\right)\right)}
                                               (-6 \text{ MO} + 2 \text{ MO Cos} [2 \alpha] + 2 \text{ MO Sec} [\alpha]^2 + 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2) -
                                  i Sec[\alpha] \left( \left( 1 / \left( 64 \times \sqrt{2 \, M0} \left( 1 + Cos[2 \, \alpha] \right) \right) / \left( M0^2 \, Sin[\alpha]^2 \right) \right) \right) i \, Cos[\alpha] \, Cot[\alpha]
                                              \sqrt{(-2+6 M0-2 \cos [2 \alpha]-2 M0 \cos [2 \alpha]-8 \sqrt{(M0^2 \sin [\alpha]^2))/(1+\cos [2 \alpha])}}
                                               (6 \text{ MO} - 2 \text{ MO Cos} [2 \alpha] - 2 \text{ MO Sec} [\alpha]^2 - 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} - 2M0 \tan[\alpha]^2 - 2M0 \cos[2\alpha] \tan[\alpha]^2
                                               (-6 \text{ MO} + 2 \text{ MO Cos} [2 \alpha] + 2 \text{ MO Sec} [\alpha]^2 + 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2 -
                                          (1/(64 \times \sqrt{2} \text{ MO} (1 + \cos[2\alpha]) \sqrt{(\text{MO}^2 \sin[\alpha]^2))}) \pm \cos[\alpha] \cot[\alpha]
                                              \sqrt{\left(\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]+8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)\right)}/\left(1+\text{Cos}\,[2\,\alpha]\right)\right)}
                                               (6 \text{ MO} - 2 \text{ MO Cos} [2 \alpha] - 2 \text{ MO Sec} [\alpha]^2 - 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} - 2M0 \tan[\alpha]^2 - 2M0 \cos[2\alpha] \tan[\alpha]^2
                                               (-6 MO + 2 MO Cos [2 \alpha] + 2 MO Sec [\alpha]^2 + 2 MO Cos [2 \alpha] Sec [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2) + +
                           i Sin[\rho/2] (-i Sec[\alpha] ((1/(16 \times \sqrt{2} \sqrt{(M0^2 Sin[\alpha]^2)}))) \sqrt{((-2+6 M0-1))}
                                                          2 \cos [2 \alpha] - 2 M0 \cos [2 \alpha] + 8 \sqrt{(M0^2 \sin [\alpha]^2)} / (1 + \cos [2 \alpha])
                                               (6 \text{ MO} - 2 \text{ MO Cos}[2 \alpha] - 2 \text{ MO Sec}[\alpha]^2 - 2 \text{ MO Cos}[2 \alpha] \text{ Sec}[\alpha]^2 + 8 \sqrt{(\text{MO}^2 \text{Sin}[\alpha]^2)} -
                                                   2 M0 Tan [\alpha]^2 - 2 M0 Cos [2\alpha] Tan [\alpha]^2) + (1/(16 \times \sqrt{2} \sqrt{(M0^2 \sin[\alpha]^2)}))
                                           \sqrt{\left(\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]-8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)}\right)/\left(1+\text{Cos}\,[2\,\alpha]\right)\right)}
                                               (-6 \text{ MO} + 2 \text{ MO Cos} [2 \alpha] + 2 \text{ MO Sec} [\alpha]^2 + 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2) -
                                  Tan[\alpha] \left( \left( 1 / \left( 64 \times \sqrt{2 \text{ M0}} \left( 1 + \cos \left[ 2 \alpha \right] \right) \sqrt{\left( \text{M0}^2 \sin \left[ \alpha \right]^2 \right) \right) \right) \pm \cos \left[ \alpha \right] \text{ Cot } [\alpha]
                                              \sqrt{\left(\left(-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]-8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)\right)}/\left(1+\text{Cos}\,[2\,\alpha]\right)\right)}
                                               (6 \text{ MO} - 2 \text{ MO Cos} [2 \alpha] - 2 \text{ MO Sec} [\alpha]^2 - 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} - 2M0 \tan[\alpha]^2 - 2M0 \cos[2\alpha] \tan[\alpha]^2
                                               (-6 \text{ MO} + 2 \text{ MO Cos} [2 \alpha] + 2 \text{ MO Sec} [\alpha]^2 + 2 \text{ MO Cos} [2 \alpha] \text{ Sec} [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2 -
                                          (1/(64 \times \sqrt{2} \text{ MO} (1 + \cos[2\alpha]) \sqrt{(\text{MO}^2 \sin[\alpha]^2))}) \text{ is } \cos[\alpha] \cot[\alpha]
                                              \sqrt{\left((-2+6\,\text{M0}-2\,\text{Cos}\,[2\,\alpha]-2\,\text{M0}\,\text{Cos}\,[2\,\alpha]+8\,\sqrt{\left(\text{M0}^2\,\text{Sin}\,[\alpha]^2\right)\right)}/\left(1+\text{Cos}\,[2\,\alpha]\right)}
                                               (6 MO - 2 MO Cos [2 \alpha] - 2 MO Sec [\alpha]^2 - 2 MO Cos [2 \alpha] Sec [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} - 2M0 \tan[\alpha]^2 - 2M0 \cos[2\alpha] \tan[\alpha]^2
                                               (-6 MO + 2 MO Cos [2 \alpha] + 2 MO Sec [\alpha]^2 + 2 MO Cos [2 \alpha] Sec [\alpha]^2 +
                                                   8\sqrt{(M0^2 \sin[\alpha]^2)} + 2M0 \tan[\alpha]^2 + 2M0 \cos[2\alpha] \tan[\alpha]^2)))]^2
ln[32]:= M01 = 400.
           M02 = 100.
           M03 = 43.85964912280702
           M04 = 24.36647173489279
           M05 = 15.35
           M07 = 7.51
           M10 = 3.3506871002735
           M12 = 2.1371173469387754
Out[32]= 400.
Out[33]= 100.
```

- Out[34] = 43.8596
- Out[35]= **24.3665**
- Out[36]= **15.35**
- Out[37]= 7.51
- Out[38]= **3.35069**
- Out[39]= 2.13712

```
ln[40] = p2 = Plot[{DecisiveProbability[M05, <math>\pi/2 - 0.5, \tau Perp, \rho],}
             DecisiveProbability[M07, \pi/2 - 0.7, \tauPerp, \rho],
             DecisiveProbability [M10, \pi/2-1, \tauPerp, \rho], 1}, \{\rho, -\pi/2, \pi/2\}, PlotRange \rightarrow All,
           PlotStyle → {Directive[Darker[Green], Thickness[0.005], DotDashed],
               Directive[Darker[Red], Thickness[0.005], Dotted], Directive[Darker[Blue],
                 Thickness [0.005], Dashed [1]], Directive [Darker [Orange], Thickness [0.005], Dashed]},
           \label{eq:frame} \textit{FrameStyle} \rightarrow \textit{Directive[Black, Thick]}, \; \textit{LabelStyle} \rightarrow \textit{Large},
           PlotLegends \rightarrow LineLegend \left[\left\{ \alpha = \frac{\pi}{2} - 0.5^{\circ}, \alpha = \frac{\pi}{2} - 0.7^{\circ}, \alpha = \frac{\pi}{2} - 1^{\circ}, \alpha = 0^{\circ} \right\}
               LegendFunction \rightarrow Framed], Frame \rightarrow True,
           FrameStyle → Directive[Black, Thick], LabelStyle → Large,
           PlotStyle → {Directive[Darker[Green], Thickness[0.007]]}, FrameLabel →
             \left\{ \text{"$\rho \in [-\frac{\pi}{2}, \frac{\pi}{2}]$", "Population of postselected space, $$ $ $ \frac{\langle \psi_{\mathcal{P}\mathcal{T}} \mid \psi_{\mathcal{P}\mathcal{T}} \rangle}{\langle \psi_{\mathcal{P}\mathcal{T}} \mid \psi_{\mathcal{P}\mathcal{T}} \rangle + \langle \psi_{\mathcal{P}\mathcal{T}} \mid \mathcal{E}^2 \mid \psi_{\mathcal{P}\mathcal{T}} \rangle} $$ "} \right\},
           LabelStyle \rightarrow {FontWeight \rightarrow "Bold", FontSize \rightarrow 25}, ImageSize \rightarrow 650,
           GridLinesStyle → Directive[Thick, Gray]
```



In[41]:= ZetaPart1[M0_, α _, τ _, ρ _] := $\label{eq:sin_alpha} \dot{\mathtt{n}}\,\,\mathsf{Sin}\big[\frac{\rho}{2}\big]\,\,\bigg(-\,\dot{\mathtt{n}}\,\,\mathsf{Sec}\,[\alpha]\,\,\mathsf{Sin}\,[\tau]\,\,\bigg(\bigg(\sqrt{\,\bigg(\frac{1}{1+\mathsf{Cos}\,\lceil 2\,\alpha\rceil}\,\,\Big(-\,2\,+\,4\,\mathsf{M0}\,-\,2\,\mathsf{Cos}\,[2\,\alpha]\,+\,\mathsf{M0}\,\mathsf{Cos}\,[2\,\alpha\,-\,2\,\tau]\,\,-\,2\,\mathsf{M0}\,\,\mathsf{Cos}\,[2\,\alpha]\,+\,\mathsf{M0}\,\,\mathsf{M0}\,\,\mathsf{Cos}\,[2\,\alpha]\,+\,\mathsf{M0}\,$ 2 M0 Cos [2 τ] + M0 Cos [2 α + 2 τ] + 2 $\sqrt{2}$ $\sqrt{(M0^2 (6 + 2 \cos [2 \alpha] + \cos [2 \alpha - 2 \tau] - \cos [2 \alpha])}$ $2 \cos [2 \tau] + \cos [2 \alpha + 2 \tau]) \sin [\alpha]^{2} \sin [\tau]^{2})$ $\left(4 \text{ M0} + \text{M0} \cos [2 \alpha - 2 \tau] - \frac{1}{2} \sin [\tau]^{2}\right)$ 2 M0 Cos [2 τ] + M0 Cos [2 α + 2 τ] - 2 M0 Cos [α - τ] 2 Sec [α] 2 - 2 M0 Cos [2 α] $\cos [\alpha - \tau]^2 \sec [\alpha]^2 - 2 \text{ M0 Sec} [\alpha]^2 \sin [\tau]^2 - 2 \text{ M0 Cos} [2 \alpha] \sec [\alpha]^2 \sin [\tau]^2 + 2 \sqrt{2}$

$$\sqrt{\mathsf{M6}^2 \left(6 + 2 \cos\{2\,\alpha\} + \cos\{2\,\alpha - 2\,\tau\} - 2 \cos\{2\,\tau\} + \cos\{2\,\alpha + 2\,\tau\} \right) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2 } \\) \bigg) \bigg/ \bigg(8 \\ \sqrt{\mathsf{M6}^2 \left(6 + 2 \cos\{2\,\alpha\} + \cos\{2\,\alpha - 2\,\tau\} - 2 \cos\{2\,\tau\} + \cos\{2\,\alpha + 2\,\tau\} \right) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2} \bigg) + \\ \bigg(\sqrt{\frac{1}{1 + \cos\{2\,\alpha\}} \left(-2 + 4 \, \mathsf{M6} - 2 \cos\{2\,\alpha\} + \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha + 2\,\tau\} \right) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2} \bigg) + \\ \bigg(\sqrt{\frac{1}{1 + \cos\{2\,\alpha\}} \left(-2 + 4 \, \mathsf{M6} - 2 \cos\{2\,\alpha\} + \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha + 2\,\tau\} - 2 \, \sqrt{2} \, \sqrt{\,\mathsf{M6}^2 \left(6 + 2 \cos\{2\,\alpha\} + \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} + 2 \, \mathsf{M6} \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} + 2 \, \mathsf{M6} \cos\{2\,\alpha\} \cos\{\alpha - \tau\}^2 \, \mathsf{Sec}[\alpha]^2 + 2 \, \mathsf{M6} \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} + 2 \, \mathsf{M6} \cos\{2\,\alpha\} \cos\{\alpha - \tau\}^2 \, \mathsf{Sec}[\alpha]^2 + 2 \, \mathsf{M6} \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} + 2 \, \mathsf{M6} \cos\{2\,\alpha\} \cos\{\alpha - \tau\}^2 \, \mathsf{Sec}[\alpha]^2 + 2 \, \mathsf{M6} \bigg) \\ \bigg(-2 \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha\} \cos\{\alpha - \tau\}^2 \, \mathsf{Sec}[\alpha]^2 + 2 \, \mathsf{M6} \bigg) \\ \bigg(-2 \, \mathsf{M6} \cos\{2\,\alpha\} + \cos\{2\,\alpha\} + \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{Cos}[2\,\tau] + \cos\{2\,\alpha + 2\,\tau\} \bigg) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2 \bigg) \bigg) \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha\} + \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha + 2\,\tau\} \bigg) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2 \bigg) \bigg) \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha\} + \cos\{2\,\alpha\} - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha + 2\,\tau\} \bigg) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2 \bigg) \bigg) \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha\} + 2 \, \tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha + 2\,\tau\} \bigg) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2 \bigg) \bigg) \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha\} + 2 \, \mathsf{M6} \cos\{2\,\alpha + 2\,\tau\} \bigg) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2 \bigg) \bigg) \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha\} + 2 \, \mathsf{M6} \cos\{2\,\alpha + 2\,\tau\} \bigg) \, \mathsf{Sin}[\alpha]^2 \, \mathsf{Sin}[\tau]^2 \bigg) \bigg) \bigg) \\ \bigg(-4 \, \mathsf{M6} - \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} - 2 \, \mathsf{M6} \cos\{2\,\alpha\} + 2 \, \mathsf{M6} \cos\{2\,\alpha - 2\,\tau\} \bigg) \, \mathsf{M6}^2 \, \bigg(-2 \, \mathsf{Cos}[2\,\alpha] + \mathsf{Cos}[2\,\alpha] + 2 \, \mathsf{M6} \cos\{2\,\alpha\} + 2 \, \mathsf{M6} \bigg) \bigg) \bigg(-2 \, \mathsf{M6} - 2 \, \mathsf{M6} \bigg) \bigg(-2 \, \mathsf{M6} - 2 \, \mathsf{M6} \bigg) \bigg(-2 \,$$

```
4 \text{ MO} + \text{MO} \cos [2 \alpha - 2 \tau] - 2 \text{ MO} \cos [2 \tau] + \text{MO} \cos [2 \alpha + 2 \tau] - 2 \text{ MO} \cos [\alpha - \tau]^2
                          Sec [\alpha]^2 - 2 M0 Cos [2 \alpha] Cos [\alpha - \tau]^2 Sec [\alpha]^2 -
                        2 M0 Sec [\alpha]^2 Sin [\tau]^2 - 2 M0 Cos [2 \alpha] Sec [\alpha]^2 Sin [\tau]^2 + 2 \sqrt{2}
                          \sqrt{\text{M0}^2 \left(6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]\right) \sin[\alpha]^2 \sin[\tau]^2}
                         \left(-4 \text{ MO} - \text{MO Cos} \left[2 \alpha - 2 \tau\right] + 2 \text{ MO Cos} \left[2 \tau\right] - \right)
                       M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha - \tau]^2 Sec [\alpha]^2 + 2 M0 Cos [2 \alpha] Cos [\alpha - \tau]^2 Sec [\alpha]^2 +
                        2 M0 Sec [\alpha]^2 Sin [\tau]^2 + 2 M0 Cos [2 \alpha] Sec [\alpha]^2 Sin [\tau]^2 + 2 \sqrt{2}
                          \sqrt{M0^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^2 \sin[\tau]^2}
                         \sqrt{\mathsf{M0^2}\left(6+2\cos\left[2\,\alpha\right]+\cos\left[2\,\alpha-2\,\tau\right]-2\cos\left[2\,\tau\right]+\cos\left[2\,\alpha+2\,\tau\right]\right)\,\sin\left[\alpha\right]^2\sin\left[\tau\right]^2}\right)\bigg|\bigg|
+ \cos\left[\frac{\rho}{2}\right] \left[\cos\left[\alpha - \tau\right] \operatorname{Sec}\left[\alpha\right] \left(\sqrt{\frac{1}{1 + \cos\left[2\alpha\right]}} \left(-2 + 4 \operatorname{MO} - 2 \cos\left[2\alpha\right] + \operatorname{MO}\right)\right]
                                 \cos [2 \alpha - 2 \tau] - 2 M0 \cos [2 \tau] + M0 \cos [2 \alpha + 2 \tau] + 2 \sqrt{2} \sqrt{M0^2 (6 + 2 \cos [2 \alpha] + 1)}
                                              \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2}
                   4 \text{ MO} + \text{MO Cos}[2 \alpha - 2 \tau] - 2 \text{ MO Cos}[2 \tau] + \text{MO Cos}[2 \alpha + 2 \tau] - 2 \text{ MO Cos}[\alpha - \tau]^2
                          Sec [\alpha]^2 – 2 M0 Cos [2\alpha] Cos [\alpha - \tau]^2 Sec [\alpha]^2 –
                       2 M0 Sec [\alpha]^2 \sin[\tau]^2 - 2 \text{ M0 Cos}[2 \alpha] \sec[\alpha]^2 \sin[\tau]^2 + 2 \sqrt{2}
                          \sqrt{M0^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^2 \sin[\tau]^2}
                  \sqrt{\text{M0}^2 \left(6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]\right) \sin[\alpha]^2 \sin[\tau]^2} + 
           \sqrt{\left(\frac{1}{1 + \cos[2\alpha]} \left(-2 + 4 \,\text{M0} - 2 \cos[2\alpha] + \text{M0} \cos[2\alpha - 2\tau] - 2 \,\text{M0} \cos[2\tau] + \right)}
                               M0 Cos [2 \alpha + 2 \tau] - 2 \sqrt{2} \sqrt{(M0^2 (6 + 2 \cos [2 \alpha] + \cos [2 \alpha - 2 \tau] - \cos [2 \alpha])}
                                              2 \cos [2 \tau] + \cos [2 \alpha + 2 \tau]) \sin [\alpha]^2 \sin [\tau]^2)
                   \left[-4 \text{ M0} - \text{M0 Cos}\left[2 \alpha - 2 \tau\right] + 2 \text{ M0 Cos}\left[2 \tau\right] - \text{M0 Cos}\left[2 \alpha + 2 \tau\right] + 2 \text{ M0}\right]
                          \cos \left[\alpha - \tau\right]^{2} \operatorname{Sec}\left[\alpha\right]^{2} + 2 \operatorname{MO} \cos \left[2 \alpha\right] \operatorname{Cos}\left[\alpha - \tau\right]^{2} \operatorname{Sec}\left[\alpha\right]^{2} +
                        2 M0 Sec [\alpha]^2 Sin [\tau]^2 + 2 M0 Cos [2 \alpha] Sec [\alpha]^2 Sin [\tau]^2 + 2 \sqrt{2}
                         \sqrt{M0^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^2 \sin[\tau]^2}
                  \sqrt{\mathsf{M}\Theta^2\left(6+2\cos\left[2\,\alpha\right]+\cos\left[2\,\alpha-2\,\tau\right]-2\cos\left[2\,\tau\right]+\cos\left[2\,\alpha+2\,\tau\right]\right)\,\sin\left[\alpha\right]^2\,\sin\left[\tau\right]^2}\,\right)\bigg]-
   \dot{\mathbf{1}} \operatorname{Sec}[\alpha] \operatorname{Sin}[\tau] \left( \left[ \dot{\mathbf{1}} \operatorname{Cos}[\alpha] \operatorname{Cot}[\alpha] \operatorname{Csc}[\tau]^2 \sqrt{\left( \frac{1}{1 + \operatorname{Cos}[2\alpha]} \left( -2 + 4 \operatorname{MO} - 2 \operatorname{Cos}[2\alpha] + 1 \right) \right) \right) \right) \right)
```

```
M0 Cos [2 \alpha – 2 \tau] – 2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] – 2 \sqrt{2} \sqrt{ (M0^2 (6 + 2 Cos [
                                                                                                                                                   [2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^{2} \sin[\tau]^{2})
                                                                                  4 \text{ MO} + \text{MO Cos}[2 \alpha - 2 \tau] - 2 \text{ MO Cos}[2 \tau] + \text{MO Cos}[2 \alpha + 2 \tau] - 2 \text{ MO Cos}[\alpha - \tau]^2
                                                                                                Sec [\alpha]^2 - 2 M0 Cos [2 \alpha] Cos [\alpha - \tau]^2 Sec [\alpha]^2 -
                                                                                           2 M0 Sec [\alpha]^2 Sin [\tau]^2 - 2 M0 Cos [2 \alpha] Sec [\alpha]^2 Sin [\tau]^2 + 2 \sqrt{2}
                                                                                                \sqrt{M0^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^2 \sin[\tau]^2}
                                                                                               -4 \text{ MO} - \text{MO} \cos[2 \alpha - 2 \tau] + 2 \text{ MO} \cos[2 \tau] -
                                                                                          M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha - \tau] 2 Sec [\alpha] 2 + 2 M0 Cos [2 \alpha] Cos [\alpha - \tau] 2 Sec [\alpha] 2 +
                                                                                           2 M0 Sec [\alpha]^2 Sin [\tau]^2 + 2 M0 Cos [2 \alpha] Sec [\alpha]^2 Sin [\tau]^2 + 2 \sqrt{2}
                                                                                               \sqrt{M0^2 (6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]) \sin[\alpha]^2 \sin[\tau]^2}
                                                                                              \bigg) \bigg] \bigg/ \bigg( 32 \, \mathsf{M0} \, \big( 1 + \mathsf{Cos} \, [2 \, \alpha] \big) \bigg)
                                                                                \sqrt{\text{M0}^2 \left(6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]\right) \sin[\alpha]^2 \sin[\tau]^2}
                                                                 \left( i \cos \left[ \alpha \right] \cot \left[ \alpha \right] \csc \left[ \tau \right]^{2} \sqrt{\left( \frac{1}{1 + \cos \left[ 2 \alpha \right]} \left( -2 + 4 \, \text{M0} - 2 \, \cos \left[ 2 \, \alpha \right] + \text{M0} \, \cos \left[ 2 \, \alpha - 2 \, \tau \right] \right. \right)}
                                                                                                         2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] + 2 \sqrt{2} \sqrt{\left(\text{M0}^2\left(6 + 2\cos{[2\,\alpha]} + \right)^2\right)}
                                                                                                                                        \cos \left[2\alpha - 2\tau\right] - 2\cos \left[2\tau\right] + \cos \left[2\alpha + 2\tau\right] \sin \left[\alpha\right]^{2} \sin \left[\tau\right]^{2}
                                                                                  4 \text{ MO} + \text{MO Cos}[2 \alpha - 2 \tau] - 2 \text{ MO Cos}[2 \tau] + \text{MO Cos}[2 \alpha + 2 \tau] - 2 \text{ MO Cos}[\alpha - \tau]^2
                                                                                               Sec[\alpha]^2 - 2 MO Cos[2 \alpha] Cos[\alpha - \tau]^2 Sec[\alpha]^2 -
                                                                                           2 M0 Sec [\alpha]^2 Sin [\tau]^2 – 2 M0 Cos [2\alpha] Sec [\alpha]^2 Sin [\tau]^2 + 2 \sqrt{2}
                                                                                                \sqrt{\text{M0}^2 \left(6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]\right) \sin[\alpha]^2 \sin[\tau]^2}
                                                                                              \left(-4 \text{ MO} - \text{MO Cos} \left[2 \alpha - 2 \tau\right] + 2 \text{ MO Cos} \left[2 \tau\right] - \right)
                                                                                          M0 Cos [2 \alpha + 2 \tau] + 2 M0 Cos [\alpha - \tau] 2 Sec [\alpha] 2 + 2 M0 Cos [2 \alpha] Cos [\alpha - \tau] 2 Sec [\alpha] 2 +
                                                                                           2 M0 Sec [\alpha]^2 \sin[\tau]^2 + 2 M0 Cos [2 \alpha] Sec [\alpha]^2 \sin[\tau]^2 + 2\sqrt{2}
                                                                                              \sqrt{\,\text{M0}^2\,\left(6+2\,\text{Cos}\,[2\,\alpha]+\text{Cos}\,[2\,\alpha-2\,\tau]\,-2\,\text{Cos}\,[2\,\tau]+\text{Cos}\,[2\,\alpha+2\,\tau]\,\right)\,\text{Sin}\,[\alpha]^{\,2}\,\text{Sin}\,[\tau]^{\,2}}
                                                                                              \bigg) \bigg] \bigg/ \bigg( 32 \, \mathsf{M0} \, \big( 1 + \mathsf{Cos} \, [2 \, \alpha] \big) \bigg)
                                                                                \sqrt{\text{M0}^2 \left(6+2 \cos \left[2 \alpha\right]+\cos \left[2 \alpha-2 \tau\right]-2 \cos \left[2 \tau\right]+\cos \left[2 \alpha+2 \tau\right]\right) \sin \left[\alpha\right]^2 \sin \left[\tau\right]^2}\right)\right)}
In[42]:= ZetaPart2[MO_, \alpha_, \tau_, \rho_] :=
                          \cos\left[\frac{\rho}{2}\right] \left(-i \operatorname{Sec}\left[\alpha\right] \operatorname{Sin}\left[\tau\right] \left(\sqrt{\frac{1}{1 + \cos\left[2\,\alpha\right]}} \left(-2 + 4 \operatorname{M0} - 2 \cos\left[2\,\alpha\right] + \operatorname{M0} \cos\left[2\,\alpha - 2\,\tau\right] - 2 \cos\left[2\,\alpha\right] + 2 
                                                                                                         2\;\text{M0}\;\text{Cos}\;[2\;\tau]\;+\;\text{M0}\;\text{Cos}\;[2\;\alpha\;+\;2\;\tau]\;-\;2\;\sqrt{2}\;\;\sqrt{\;\left(\text{M0}^2\;\left(6\;+\;2\;\text{Cos}\;[2\;\alpha]\;+\;\text{Cos}\;[2\;\alpha\;-\;2\;\tau]\;-\;1\right)^2}
                                                                                                                                        2 \cos[2\tau] + \cos[2\alpha + 2\tau] \sin[\alpha]^2 \sin[\tau]^2
                                                                                           2 M0 Cos [2 \tau] + M0 Cos [2 \alpha + 2 \tau] - 2 M0 Cos [\alpha - \tau] 2 Sec [\alpha] 2 - 2 M0 Cos [2 \alpha]
                                                                                                \cos [\alpha - \tau]^2 \sec [\alpha]^2 - 2 \text{ M0 Sec} [\alpha]^2 \sin [\tau]^2 - 2 \text{ M0 Cos} [2 \alpha] \sec [\alpha]^2 \sin [\tau]^2 + 2 \sqrt{2}
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$$\sqrt{\mathsf{M0}^2 \left(6 + 2 \cos \left[2 \, \alpha \right] + \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \cos \left[2 \, \tau \right] + \cos \left[2 \, \alpha + 2 \, \tau \right] \right) } \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 } \right) \right) / \left(8$$

$$\sqrt{\mathsf{M0}^2 \left(6 + 2 \cos \left[2 \, \alpha \right] + \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \cos \left[2 \, \tau \right] + \cos \left[2 \, \alpha + 2 \, \tau \right] \right) } \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) + \left(\sqrt{\left(\frac{1}{1 + \cos \left[2 \, \alpha \right]} \left(-2 + 4 \, \mathsf{M0} - 2 \cos \left[2 \, \alpha \right] + \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{M0} \cos \left[2 \, \alpha + 2 \, \tau \right] \right) } \right) } \right) + \left(\sqrt{\left(\frac{1}{1 + \cos \left[2 \, \alpha \right]} \left(-2 + 4 \, \mathsf{M0} - 2 \cos \left[2 \, \alpha \right] + \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{M0} \cos \left[2 \, \alpha + 2 \, \tau \right] \right) } \right) } \right) } \right) - \left(-4 \, \mathsf{M0} - \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] + 2 \, \mathsf{M0} \cos \left[2 \, \alpha + 2 \, \tau \right] \right) \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) \right) \right) } \left(-4 \, \mathsf{M0} - \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] + 2 \, \mathsf{M0} \cos \left[2 \, \alpha + 2 \, \tau \right] \right) \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) \right) \right) - \left(-4 \, \mathsf{M0} - \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] + 2 \, \mathsf{M0} \cos \left[2 \, \alpha + 2 \, \tau \right] \right) \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) \right) - \left(-4 \, \mathsf{M0} - \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] + 2 \, \mathsf{M0} \cos \left[2 \, \alpha + 2 \, \tau \right] \right) \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) \right) \right) - \left(-4 \, \mathsf{M0} - \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] + 2 \, \mathsf{M0} \cos \left[2 \, \alpha \right] \cos \left[\alpha - \tau \right]^2 \sec \left[\alpha \right]^2 + 2 \, \mathsf{M0} \cos \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{M0} \cos \left[2 \, \alpha \right]^2 + 2 \, \mathsf{M0} \cos \left[2 \, \alpha \right]^2 + 2 \, \mathsf{M0} \cos \left[2 \, \alpha \right]^2 \cos \left[2 \, \alpha \right] \cos \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) \right) \right) - \left(8 \, \sqrt{\mathsf{M0}^2 \left(6 + 2 \cos \left[2 \, \alpha \right] + \mathsf{Cos} \left[2 \, \alpha - 2 \, \tau \right] - 2 \, \mathsf{Cos} \left[2 \, \tau \right] + \mathsf{Cos} \left[2 \, \alpha + 2 \, \tau \right] \right) \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) \right) + \left(\cos \left[\alpha - \tau \right] \sin \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) + \left(\cos \left[\alpha - \tau \right] \cos \left[\alpha \right] \cos \left[\alpha \right] \cos \left[\alpha \right] \cos \left[\alpha \right] \right) \cos \left[\alpha \right]^2 \sin \left[\tau \right]^2 \right) \right) + \left(\sin \left[\alpha \right] \sin \left[\alpha \right] \cos \left[\alpha \right]$$

$$\begin{split} & Sec[\alpha]^2 - 2 \log Cos[2 \alpha] Cos[\alpha - \tau]^2 Sec[\alpha]^2 \\ & 2 \log Sec[\alpha]^2 Sin[\tau]^2 - 2 \log Cos[2 \alpha] Sec[\alpha]^2 Sin[\tau]^2 + 2 \sqrt{2} \\ & \sqrt{M\Theta^2} \left(6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]\right) Sin[\alpha]^2 Sin[\tau]^2 \\ &) \bigg) \bigg/ \left(8 \\ & \sqrt{M\Theta^2} \left(6 + 2 \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \cos[2 \tau] + \cos[2 \alpha + 2 \tau]\right) Sin[\alpha]^2 Sin[\tau]^2 \right) + \\ & \left(\sqrt{\left(\frac{1}{1 + \cos[2 \alpha]} \left(-2 + 4 \log - 2 \cos[2 \alpha] + \log \cos[2 \alpha - 2 \tau] - 2 \log \cos[2 \tau] + \log \cos[2 \alpha - 2 \tau] - 2 \log \cos[2 \tau] + \log \cos[2 \alpha + 2 \tau] + 2 \log \cos[2 \alpha] + \log \cos[2 \alpha - 2 \tau] - 2 \log \cos[2 \alpha] + \log \cos[2 \alpha + 2 \tau] + 2 \log \cos[2 \alpha + 2 \tau] + 2 \log \cos[2 \alpha] + \cos[2 \alpha - 2 \tau] - 2 \log \cos[2 \alpha] + \log \cos[2 \alpha - 2 \tau] - 2 \log \cos[2 \alpha] + 2 \log \cos[2$$

$$\left[64 \sqrt{2} \ \mathsf{N}\theta \left(1 + \mathsf{Cos} \left[2 \, \alpha \right] \right) \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin} \left[\alpha \right]^2} \right) \right] + \mathtt{i} \, \mathsf{Sin} \left[\frac{\rho}{2} \right]$$

$$\left[-\mathtt{i} \, \mathsf{Sec} \left[\alpha \right] \left(\frac{1}{16 \sqrt{2} \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin} \left[\alpha \right]^2}} \sqrt{\frac{-2 + 6 \, \mathsf{N}\theta - 2 \, \mathsf{Cos} \left[2 \, \alpha \right] - 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + 8 \, \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin} \left[\alpha \right]^2}} \right. \right.$$

$$\left[\frac{6 \, \mathsf{N}\theta - 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] - 2 \, \mathsf{N}\theta \, \mathsf{Sec} \left[\alpha \right]^2 - 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Sec} \left[\alpha \right]^2 + 8 \, \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin} \left[\alpha \right]^2} \right. \right.$$

$$\left[\frac{1}{16 \sqrt{2} \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin} \left[\alpha \right]^2}} \sqrt{\frac{-2 + 6 \, \mathsf{N}\theta - 2 \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2}{1 + \mathsf{Cos} \left[2 \, \alpha \right]} + 8 \, \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin} \left[\alpha \right]^2}} \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + 2 \, \mathsf{N}\theta \, \mathsf{Sec} \left[\alpha \right]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Sec} \left[\alpha \right]^2 + 8 \, \sqrt{\mathsf{N}\theta^2 \, \mathsf{Sin} \left[\alpha \right]^2} \right. \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right] -$$

$$\left. \left(-6 \, \mathsf{N}\theta - 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] - 2 \, \mathsf{N}\theta \, \mathsf{Sec} \left[\alpha \right]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta - 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] - 2 \, \mathsf{N}\theta \, \mathsf{Sec} \left[\alpha \right]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] - 2 \, \mathsf{N}\theta \, \mathsf{Sec} \left[\alpha \right]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + 2 \, \mathsf{N}\theta \, \mathsf{Sec} \left[\alpha \right]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + 2 \, \mathsf{N}\theta \, \mathsf{Sec} \left[\alpha \right]^2 + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right) \right.$$

$$\left. \left(-6 \, \mathsf{N}\theta + 2 \, \mathsf{N}\theta \, \mathsf{Cos} \left[2 \, \alpha \right] \, \mathsf{Tan} \left[\alpha \right]^2 \right.$$

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In[55]:= FullSimplify[((Evolution.Transpose[vectorRef])[[1]][[1]]^2 +
              FullSimplify[I * (Evolution.Transpose[vectorRef])[[2]][[1]]]^2) /
           ((Evolution.Transpose[vectorRef])[[1]][[1]]^2+
              FullSimplify[I * (Evolution.Transpose[vectorRef])[[2]][[1]]]^2+
              FullSimplify (ZetaF.Evolution.Transpose[vectorRef]) [[1]] [[1]] ^2 +
              FullSimplify[I * (ZetaF.Evolution.Transpose[vectorRef])[[2]][[1]]]^2)]
_{\text{Out[55]=}} \ \frac{-3 + \text{Cos}\left[2\,\alpha\right] - 4\,\text{Sin}\left[\alpha\right]\,\text{Sin}\left[\rho\right]}{-3 + \text{Cos}\left[2\,\alpha\right] + 4\,\text{Sin}\left[\alpha\right]}
```