$$term\_1 := \frac{x\_0^2}{(x\_0 \cdot \mathrm{HankelH1}(2, x\_0) + \mathrm{HankelH1}(1, x\_0))};$$

$$\frac{x\_0^2}{x\_0\,\mathrm{HankelH1}(2, x\_0) + \mathrm{HankelH1}(1, x\_0)} \tag{1}$$

$$term\_2 := \frac{x\_0}{\mathrm{HankelH1}(1, x\_0)};$$

$$\frac{x\_0}{\mathrm{HankelH1}(1, x\_0)} \tag{2}$$

$$const := \frac{B\_0}{2 \cdot x} \cdot \sin(a) \cdot \exp(I \cdot (x + etha));$$

$$\frac{1}{2}\,\frac{B\_0 \sin(a)\,\mathrm{e}^{\mathrm{I}(x + etha)}}{x} \tag{3}$$

$$B\_theta := I \cdot const \cdot (term\_1 - term\_2) \cdot \cos(a);$$

$$\frac{1}{x}\left(\frac{1}{2}\,\mathrm{I}\,B\_0 \sin(a)\,\mathrm{e}^{\mathrm{I}(x + etha)}\left(\frac{x\_0^2}{x\_0\,\mathrm{HankelH1}(2, x\_0) + \mathrm{HankelH1}(1, x\_0)} - \frac{x\_0}{\mathrm{HankelH1}(1, x\_0)}\right)\cos(a)\right) \tag{4}$$

$$B\_phi := -const \cdot (term\_1 \cdot \cos(2 \cdot a) - term\_2);$$

$$-\frac{1}{2}\,\frac{1}{x}\left(B\_0 \sin(a)\,\mathrm{e}^{\mathrm{I}(x + etha)}\left(\frac{x\_0^2 \cos(2\,a)}{x\_0\,\mathrm{HankelH1}(2, x\_0) + \mathrm{HankelH1}(1, x\_0)} - \frac{x\_0}{\mathrm{HankelH1}(1, x\_0)}\right)\right) \tag{5}$$

$$const2 := \frac{eps\_0 \cdot c^4 \cdot x^2}{w^2};$$

$$\frac{eps\_0\,c^4\,x^2}{w^2} \tag{6}$$

$$Mom\_In \cdot w \cdot wdot = const2 \cdot B\_theta^2 + B\_phi^2;$$

$$\begin{aligned} Mom\_In\,w\,wdot = {} & -\frac{1}{4}\,\frac{1}{w^2}\left(B\_0^2 \sin(a)^2 \left(\mathrm{e}^{\mathrm{I}(x + etha)}\right)^2 \left(\frac{x\_0^2}{x\_0\,\mathrm{HankelH1}(2, x\_0) + \mathrm{HankelH1}(1, x\_0)} - \frac{x\_0}{\mathrm{HankelH1}(1, x\_0)}\right)^2 \cos(a)^2\, eps\_0\, c^4\right) \\ & + \frac{1}{4}\,\frac{1}{x^2}\left(B\_0^2 \sin(a)^2 \left(\mathrm{e}^{\mathrm{I}(x + etha)}\right)^2 \left(\frac{x\_0^2 \cos(2\,a)}{x\_0\,\mathrm{HankelH1}(2, x\_0) + \mathrm{HankelH1}(1, x\_0)} - \frac{x\_0}{\mathrm{HankelH1}(1, x\_0)}\right)^2\right) \end{aligned} \tag{7}$$

Let's define the first term with numerator x_0^2 as t and the second one as z. Then, without the constants, the integral turns into this form:

$int\left(\left(\left(-(t-z)^2\cdot(\cos(\text{theta}))^2+(t\cdot\cos(2\cdot\text{theta})-z)^2\right)\cdot\sin(\text{theta})\right), \text{theta}=0..\text{Pi}\right);$

$$\frac{4}{15}t^2+\frac{8}{3}tz+\frac{4}{3}z^2 \tag{8}$$