**Задание: определить производные** $\frac{∂Ra}{∂S},\frac{∂Ra}{∂V}, \frac{∂ω}{∂S},\frac{∂ω}{∂V}$

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| --- | --- | --- |
|  | $$Rz=h\_{1}+h\_{2}+h\_{3}+h\_{4},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$h\_{1}=\frac{S^{2}}{8∙r},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$h\_{2}=\frac{10∙C\_{p}∙S^{y}∙V^{n}∙K\_{p\_{1}}∙\left(\left(\frac{σ\_{b}^{max}}{750}\right)^{m}∙t^{x}-\left(\frac{σ\_{b}^{min}}{750}\right)^{m}∙\left(t-Rz\_{И}\right)^{x}\right)}{j\_{т.с.}},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$h\_{3}=\frac{b\_{сдв}∙(2S+b\_{сдв})}{32∙r},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$h\_{4}=Rz\_{вр}.$$ |  |

 Параметр $Ra$ определяем по следующей формуле:

$$Ra=0,2∙Rz.$$

|  |  |  |
| --- | --- | --- |
|  | $$ω=ω\_{j}+ω\_{И}+ω\_{ф}+ω\_{Θ},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$ω\_{j}=\frac{10∙C\_{p}∙S^{y}∙V^{n}∙K\_{p\_{1}}∙\left(\left(\frac{σ\_{b}^{max}}{750}\right)^{m}∙t\_{max}^{x}-\left(\frac{σ\_{b}^{min}}{750}\right)^{m}∙t\_{min}^{x}\right)}{j\_{т.с.}},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$ ω\_{И}=\frac{U\_{0}∙π∙d∙l\_{п}}{1000∙S},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$ω\_{ф}=\frac{∆∙l\_{п\_{1}}}{1000},$$ |  |

|  |  |  |
| --- | --- | --- |
|  | $$ω\_{Θ}=0,125∙\left(ω\_{j}+ω\_{И}+ω\_{ф}\right).$$ |  |