manBetaCIWald: Staging

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Staging...

```
object <- lm(QUALITY ~ NARTIC + PCTGRT + PCTSUPP, data = nas1982)
```

```
manBetaCIWald(object, type = "mvn")
#> Error in manBetaCIWald(object, type = "mvn"):  could not find function "manBetaCIWald"
manBetaCIWald(object, type = "adf")
#> Error in manBetaCIWald(object, type = "adf"):  could not find function "manBetaCIWald"
```

References

R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/

$$\beta = \left[\left(\sigma_Y^2 \right)^{-1} \operatorname{diag} \left(\Sigma_{X,X} \right) \right]^{\frac{1}{2}} \Sigma_{X,X}^{-1} \sigma_{X,Y} \tag{1}$$

$$\Gamma_{\text{ADF}} = \sigma_{ijgh} - \sigma_{ij} \sigma_{gh} \tag{2}$$

$$\tilde{\Gamma}_{\text{ADF}} = \tilde{\sigma}_{ijgh} - \tilde{\sigma}_{ij} \tilde{\sigma}_{gh} \tag{3}$$

$$\begin{aligned} \hat{\Gamma}_{\text{ADF}} = & \frac{n \left(n - 1 \right)}{\left(n - 2 \right) \left(n - 3 \right)} \left(\tilde{\sigma}_{ijgh} - \tilde{\sigma}_{ij} \tilde{\sigma}_{gh} \right) \\ & - \frac{n}{\left(n - 2 \right) \left(n - 3 \right)} \left(\tilde{\sigma}_{ik} \tilde{\sigma}_{jl} + \tilde{\sigma}_{il} \tilde{\sigma}_{jk} - \frac{2 \tilde{\sigma}_{ij} \tilde{\sigma}_{gh}}{\left(n - 1 \right)} \right) \end{aligned} \tag{4}$$