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KISSsys Instruction:

Translation of variables without modifying classes

1 Introduction

The variables in KISSsys are mostly translated from KISSsoft to KISSsys and in the reverse. This translation is managed in the “*TranslationTable*”. The content of this table is fixed in the classes, which cannot be modified by a normal user. It is possible though to enlarge the table manually.

2 Solution

The creation of the array “*TranslationTable*” in a KISSsoft **calculation** with the translation value enlarges the definition of the table.

2.1 Definition of the Array

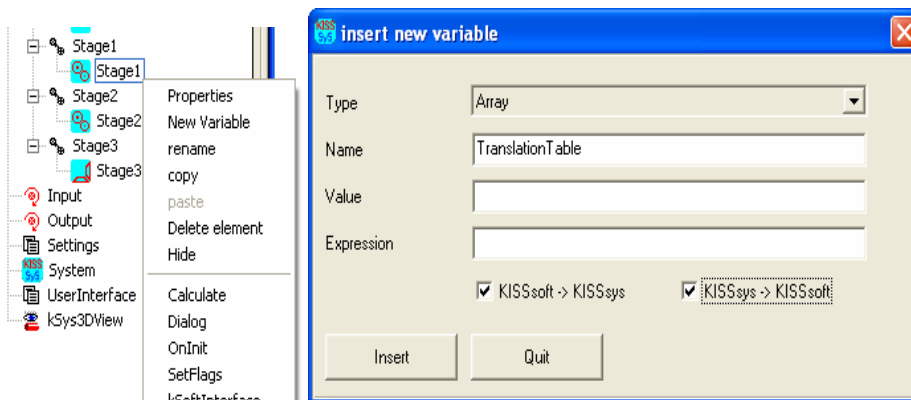


Figure 2.1-1 Adding a "TranslationTable" array tot he calculation

Firstly define an array with the name “*TranslationTable*” and set the toggles for the data transfer between KISSsoft and KISSsys:

2.2 Translation Values

The translation values are introduced into the array as follows:

```
[["KISSsys variable1", "KISSsoft variable1"], ["KISSsys variable2", "KISSsoft variable2"]]
```

The KISSsys variable names can be chosen by the user itself. The hardest part is how to find the variable name in KISSsoft. For that purpose the user has to search the name in the report templates of KISSsoft. The best way is to explain that procedure with an example:

The variable for RzH has to be found in KISSsoft.

1. Check the position in the report:

1. TOOTH GEOMETRY AND MATERIAL

(Geometry calculation according DIN 3960)

| | | ----- GEAR 1 ----- | ----- GEAR 2 --- |
|--|-------------|--|------------------|
| Centre distance (mm) | [a] | 225.000 | |
| Centre distance tolerances | | ISO 286 Measure js7 | |
| Normal module (mm) | [mm] | 5.0000 | |
| Pressure angle at normal section (°) | [alfn] | 20.0000 | |
| Helix angle at Pitch diameter (°) | [beta] | 10.0000 | |
| Number of teeth | [z] | 23 | 65 |
| Facewidth (mm) | [b] | 98.00 | 90.00 |
| Helix | | Left | Right |
| Accuracy grade | [Q-DIN3961] | 6 | 6 |
| Inner diameter of ring (mm) | [dRing] | 0.00 | 0.00 |
| Internal diameter gearbody (mm) | [di] | 0.00 | 0.00 |
| Material | | | |
| Gear 1: | | 18CrNiMo7-6 (1) (>=28HRC core), Case-hardening steel, case-hardened DIN 3990-5 Figure 4a/4b (MQ), core strength >=28HRC | |
| Gear 2: | | 18CrNiMo7-6 (1) (>=28HRC core), Case-hardening steel, case-hardened DIN 3990-5 Figure 4a/4b (MQ), core strength >=28HRC | |
| Surface hardness | | HRC 61 | HRC 61 |
| Fatigue str. tooth root tension (N/mm ²) | [sigFlim] | 430.00 | 430.00 |
| Fatigue str. Hertzian stress (N/mm ²) | [sigHlim] | 1500.00 | 1500.00 |
| Yield point (N/mm ²) | [Rp] | 850.00 | 850.00 |
| Youngs modulus (N/mm ²) | [E] | 206000 | 206000 |
| Poisson number | [nu] | 0.300 | 0.300 |
| Mean roughness height, Rz, flank (µm) | [RZH] | 5.00 | 4.80 |
| Mean roughness height, Rz, root (µm) | [RZF] | 20.00 | 20.00 |
| Dedendum reference profile (module) | [hfP*] | 1.250 | 1.250 |
| Tooth root radius Refer. profile (module) | [rofP*] | 0.380 | 0.380 |

Figure 2.2-1 Look for a variable from the report

2. Search for the report template: Z011Le0.RPT

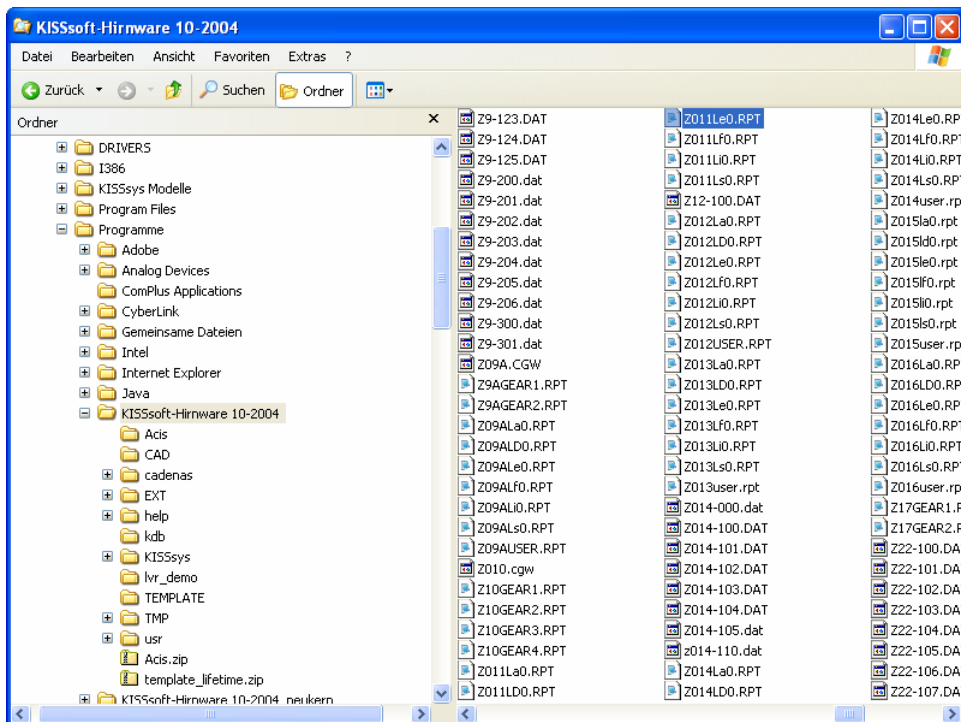


Figure 2.2-2 Lookup for a correct report template

“Z01” stands for the module of the report. “e” stands for the language (e = English). “RPT” stands for the report. These files are the report templates for KISSsoft.

3. Open that template and look for the line “Mean roughness...” and copy the variables.

```

1ELSE
5
5Allowable bending stress number [sat] (lb/in²), (N/mm²) (lb/in²), (N/mm²) %10.0f,%7.2f %10.0f,%7.2f {ZR[0].mat.agmasat} {ZR[0].mat.agmas
5Allowable contact stress number [sac] %10.0f,%7.2f %10.0f,%7.2f {ZR[0].mat.agmasac} {ZR[0].mat.agmas
1END;
9Yield point (N/mm²) [Rp] %10.2f %10.2f {ZR[0].mat.Rp} {ZR[1].mat.
9Youngs modulus (N/mm²) [E] %10.0f %10.0f {ZR[0].mat.E} {ZR[1].mat.E}
9Poisson number [ny] %10.3f %10.3f {ZR[0].mat.ny} {ZR[1].mat.ny}
9Mean roughness height, Rz, flank (µm) [RZH] %10.2f %10.2f {ZR[0].RZH} {ZR[1].RZH}
9Mean roughness height, Rz, root (µm) [RZF] %10.2f %10.2f {ZR[0].RZF} {ZR[1].RZF}
1END;
9
1TF (%i==1) {RchSt RpmitAufmass}

```

Figure 2.2-3 Search the correct variable names from the report template

The KISSsoft variables for RZH are:

| | |
|--------------------|-----------|
| RZH for the gear 1 | ZR[0].RZH |
| RZH for the gear 2 | ZR[1].RZH |

4. Enter the value in the variables in the "TranslationTable"

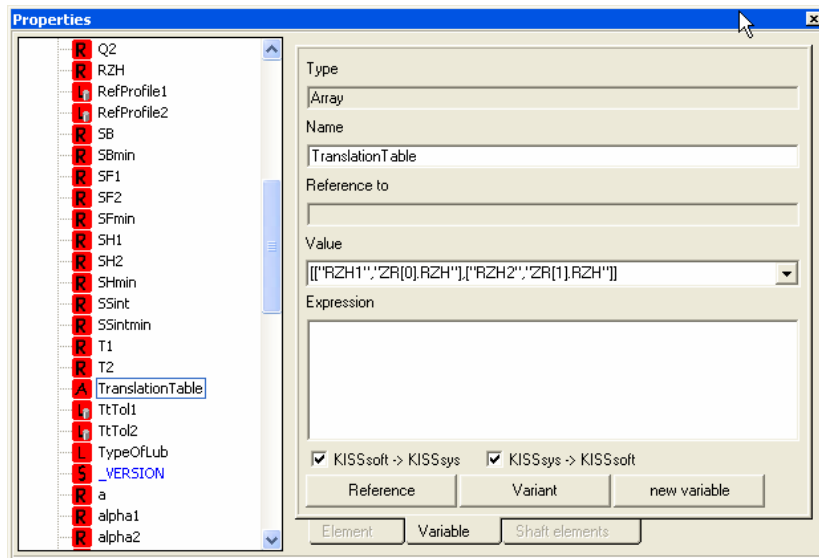


Figure 2.2-4 Enter correct variables to the "TranslationTable"

2.3 Definition of the new variables

Create the variables RZH1 and RZH2 in the calculation and set the toggles correctly. Check the values at the end of your work.

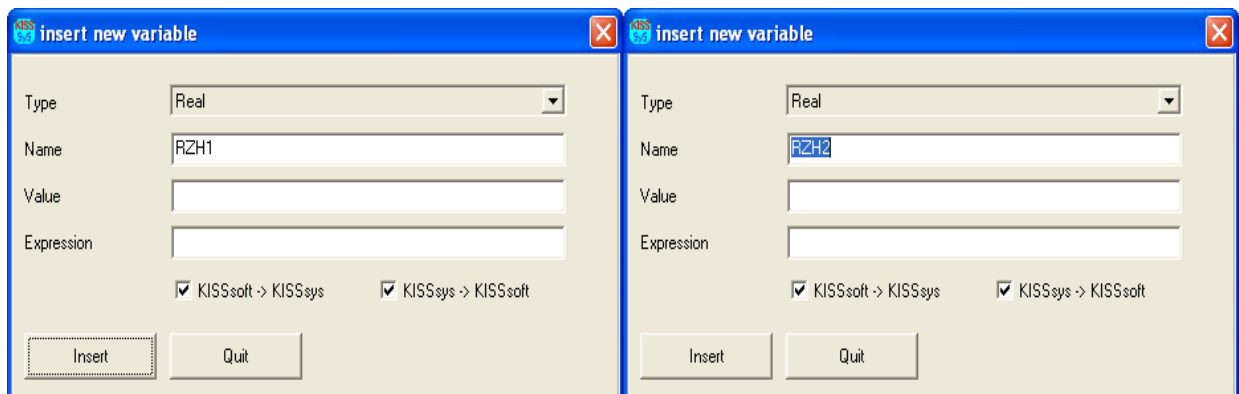


Figure 2.3-1 Insert new variables under calculation

3 Remarks

It is necessary that you repeat those steps for every variable you want to have translated. If you want to translate special variables in a lot of calculations and models, it is recommended that you contact KISSsoft AG, for the manipulation of your classes. If you feel that there are some variables which could be for interest for everyone, but which is not translated yet, please contact KISSsoft AG for the translation.