**3D Curve, Rotary Table and Loops (Blade and Rotor application)**

Take careful notice of signs, case and spelling, in all formulas.

1. First create a Measurement plan with the required 3d curve.

2. Open the Curve Feature

    a. Click the **Comment** button.
    b. Right mouse in the comment field, select formula and enter:    **LOOP1**
    c. Ok to close, comment field will be yellow and display **1**
    d. Ok to close Name/Comment window.
    e. Click on Strategy, Open **Clearance Data**.
    f. Right Mouse in **RT Position** field, select formula and enter:   **60\*LOOP1-60**
       (where 60 is the angle between curves).
    g. OK and close the Curve Feature

3. From the **Resources→Utilities** pull down, create a secondary alignment.

    a. Open the Secondary Alignment and click **Special** Button.
    b. Click **Rotate by Angle.**
    c. Right Mouse in the Angle field, select formula and enter:  **rad(-60\*LOOP1+60)**
       (where 60 is the angle between curves).
    d. Ok and close the Secondary alignment.

4. Highlight and Group the Secondary Alignment and the Curve Characteristic.

    a. Right mouse on the **Group** and Select **Loop.**
    b. Click **Insert** enter the number of curves in the **End** field (In this case, 6).

5. Finally reopen the Curve.

    a. In the **Alignment** pull down, select the Secondary Alignment.

**How it Works**

Step 2 puts a LOOP counter in the comment field. This is incremented by one each time the curve is executed. In the RT position field the required degrees of rotation are factored by the LOOP counter minus one step (60 degrees in this case) this starts the first run at zero.

Step 3 creates a Secondary Alignment to allow one set of nominals to be used. In other words I step the table in one direction, then rotate the controlling alignment back by the same amount. This field only accepts radians so I convert the degrees with the **rad** function.

Step 4 creates the required LOOP. The Group will cause not only the Characteristic to be updated but the controlling Secondary Alignment as well.

Step 5 lets the Nominals to be controlled by the Secondary Alignment.