

# Empirical Mode Decomposition HHT

- ➔ Reference:C:\Documents and Settings\Tom\My Documents\\_Mathcad\Climat\EMD Extrema.xmcd(R)
- ➔ Reference:C:\Documents and Settings\Tom\My Documents\\_Mathcad\Climat\EMD HHT Function.xmcd(R)

```
TempMill7 := READPRN("Temp 7 Reconstructions-briffa.txt")      t := 1..988
gsta := READPRN("gsta.dat")      Yr := gsta<1>      T := gsta<2>
Y987_t := TempMill7_t,1 - 1000      T987_t := TempMill7_t,7 + 0.2      RT := rows(T)
rows(extrema(T)) = 89      HHT := eemd(T,0,1)      cols(HHT) = 8
r := 1..RT      X_r := r      Residual := HHT<6> + HHT<7> + HHT<8>
```

```
Ext := extrema(T)      RExt := rows(Ext)      spmax := submatrix(Ext,1,Ext_RExt,2,1,2)
Ext_Ext-1,2 = 0.336
```

```
spmin := submatrix(Ext,Ext_RExt,2 + 1,RExt - 2,1,2)      up_sp := cspline(spmax<1>,spmax<2>)
```

```
upper := interp(up_sp,spmax<1>,spmax<2>,X)
```

```
low_sp := cspline(spmin<1>,spmin<2>)      lower := interp(low_sp,spmin<1>,spmin<2>,X)
```

### Hilbert-Huang Transformation of Temperature Signal

