for (i =lower; I <= upper; ++i)

{

/\* derive template (involving location/orientation parameters) from given plus/cross waveforms: \*/

plainTemplateReal = FplusScaled \* dataPtr->freqModelhPlus->data->data[i].re

+ FcrossScaled \* dataPtr->freqModelhCross->data->data[i].re;

plainTemplateImag = FplusScaled \* dataPtr->freqModelhPlus->data->data[i].im

+ FcrossScaled \* dataPtr->freqModelhCross->data->data[i].im;

/\* do time-shifting... \*/

/\* (also un-do 1/deltaT scaling): \*/

f = ((double) i) \* deltaF;

/\* real & imag parts of exp(-2\*pi\*i\*f\*deltaT): \*/

re = cos(twopit \* f);

im = - sin(twopit \* f);

templateReal = (plainTemplateReal\*re - plainTemplateImag\*im) / deltaT;

templateImag = (plainTemplateReal\*im + plainTemplateImag\*re) / deltaT;

dataReal = dataPtr->freqData->data->data[i].re / deltaT;

dataImag = dataPtr->freqData->data->data[i].im / deltaT;

/\* compute squared difference & 'chi-squared': \*/

diffRe = dataReal - templateReal; // Difference in real parts...

diffIm = dataImag - templateImag; // ...and imaginary parts, and...

diffSquared = diffRe\*diffRe + diffIm\*diffIm ; // ...squared difference of the 2 complex figures.

REAL8 temp = ((TwoDeltaToverN \* diffSquared) / dataPtr->oneSidedNoisePowerSpectrum->data->data[i]);

chisquared += temp;

dataPtr->loglikelihood -= temp

}