Notes on getting from the regular stress tensor form for the E matrix to the one for the deviatoric components with A, B, C etc.

Tau1 = sumij ( mij sigij ) = m11sig11 + m22sig22 + m33sig33 +

m21sig12 + m12sig12 +   
 m13sig13 + m31sig13 +   
 m32sig23 + m23sig23

So each off-diag is (mij+mji) sigij , just as in the framework

So to get A = sig22 – sig33 = m22sig22 - m33sig33

Not so obvious how to get that from products of m with C, B etc.!

Consider what slide #51 states.

Tau1 = m22\*-C + m33\*B + etc.

= m22\*(sig22-sig11) + m33\*(sig33-sig11) + etc.

= m22\*sig22 - m22\*sig11 + m33\*sig33 - m33\*sig11 + etc.

= m22\*sig22 + m33\*sig33 - m33\*sig11 - m22\*sig11 + etc.

Compare with:

= m22sig22 + m33sig33 + m11sig11 + etc.

Is it therefore true that m11 = 0 – m22 – m33 ?

Yes, the “m” matrices are traceless, so m11 + m22 + m33 =0

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Computed all 792 5C12 combinations. By inverting the matrix for the stress calculation, and testing for non-zero determinant, only 384 remain, which is correct.

However, from examining Bishop-Hill-list-sorted.xlsx, and considering ONLY the stress combinations with values equal to 0, ½ and 1 (scaled by √6), **none of the resulting combinations correspond to Bishop-Hill stress states**.

Need to check how many slip systems each of my 384 calculated stress states are activated: should be 8 or 6. If more or less, then something is still wrong.

**To do: take the B-H stress states and compute the RSS on all 12 systems for each of the 28.**