

```

static inline void pyop2_kernel_compile_slate (double *restrict A3,
                                              const double *restrict coords,
                                              const int *restrict cell_orientations,
                                              const double *restrict w_0,
                                              const double *restrict w_1,
                                              const double *restrict w_2,
                                              const double *restrict w_3,
                                              const double *restrict w_4,
                                              const int8_t *restrict arg_cell_facets)
{
    int8_t (*cell_facets)[2] = (int8_t (*)[2])arg_cell_facets;

    /* Declare and initialize */
    Eigen::Matrix<double, 9, 15, Eigen::RowMajor> T0 ;
    T0.setZero();
    Eigen::Matrix<double, 15, 15, Eigen::RowMajor> T1 ;
    T1.setZero();

    /* Assemble local tensors */
    subkernel1_cell_to_00_cell_integral_otherwise(T1.block<12, 12>(0, 0),
                                                  coords,
                                                  cell_orientations,
                                                  w_0, w_1, w_2, w_3, w_4);
    subkernel1_cell_to_01_cell_integral_otherwise(T1.block<12, 3>(0, 12),
                                                  coords,
                                                  cell_orientations,
                                                  w_0, w_1, w_2, w_3, w_4);
    subkernel1_cell_to_10_cell_integral_otherwise(T1.block<3, 12>(12, 0),
                                                  coords,
                                                  cell_orientations,
                                                  w_0, w_1, w_2, w_3, w_4);
    subkernel1_cell_to_11_cell_integral_otherwise(T1.block<3, 3>(12, 12),
                                                  coords,
                                                  w_0, w_1, w_2, w_3, w_4);

    /* Loop over cell facets */
    for (unsigned int i0 = 0; (i0) < (3); i0 += 1)
    {
        if ((cell_facets[i0][0]) == (1)) {
            subkernel0_interior_facet_to_00_exterior_facet_integral_otherwise(
                T0.block<9, 12>(0, 0),
                coords,
                cell_orientations, &i0
            );
        }
    }

    Eigen::PartialPivLU<Eigen::Matrix<double, 15, 15, Eigen::RowMajor> > dec2(T1);

    /* Map eigen tensor into C struct */
    Eigen::Map<Eigen::Matrix<double, 9, 9, Eigen::RowMajor> > T3((double *)A3);
    /* Linear algebra expression */
    T3 += T0 * (dec2).inverse() * (T0).transpose();
}

```