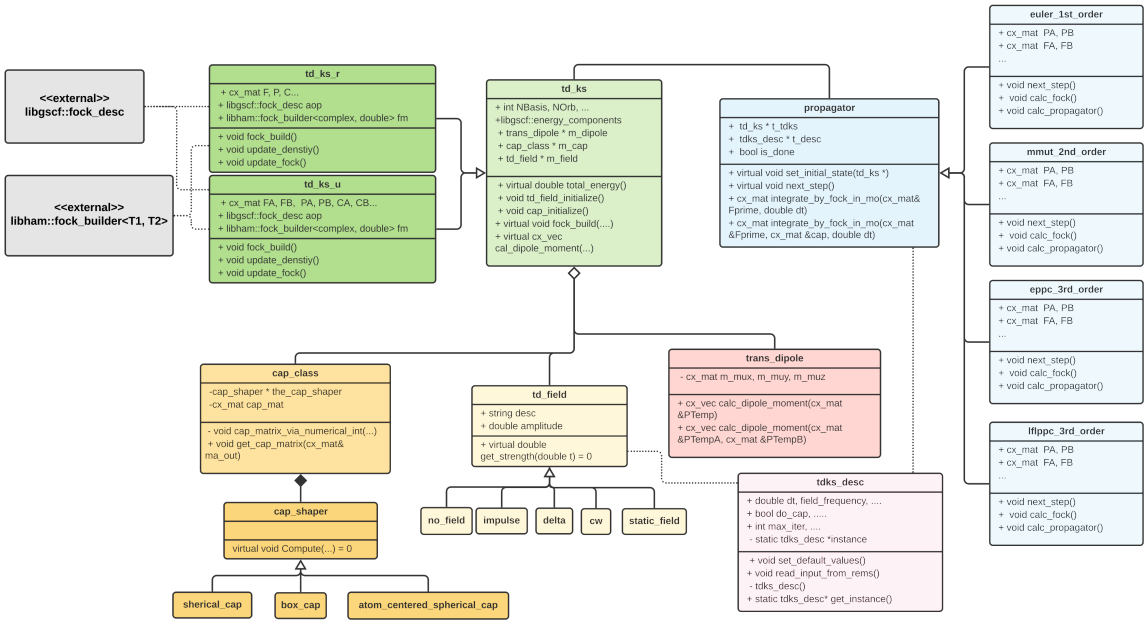

Figure 2.1: Class diagram for tdksman implementation.

```
void tdks_man::tdksman()
{
        ...
        /** initialize the tdks parameters*/
        tdks_desc* m_desc = m_desc->get_instance();

        /** instantiate the td_ks object */
        td_ks * the_tdks = tdks_selector(m_desc->tdks_otype);

        /** instantiate the propagator object */
        propagator * the_propagator = propagator_selector(m_desc->propagator);

        /** set the initial state */
        the_propagator->set_initial_state(the_tdks);

        /** time domain propagation */
        while(!the_propagator->is_done){
                the_propagator->next_step();
                the_tdks->print();
        }
        ...
}
```

Figure 2.2: illustrate essential lines in `tdksman()`