

Propagator Interfaces

RungeKuttaEngine:

- Fulfills IPropagationEngine interface

```
virtual ExtrapolationCode
propagate (ExCellCharged&
           const Surface&
           PropDirection
           std::vector<ExtrapolationMode::eMode> purpose
           = {ExtrapolationMode::Destination},
           const BoundaryCheck& bcheck
           bool
           ecCell,
           sf,
           dir = alongMomentum,
           = true,
           returnCurvilinear = true) const = 0;
```

“New” Propagator:

- Templated on Implementation
“AtlasStepper” or “EigenStepper”

```
/// @brief propagate track parameters
template <typename TrackParameters,
          typename Surface,
          typename ObserverList,
          typename AbortList>
obs_list_result_t<
typename Impl::template return_parameter_type<TrackParameters,
Surface>,
ObserverList>
propagate(const TrackParameters& start,
          const Surface& target,
          const Options<ObserverList, AbortList>& options) const
```

Propagator interfaces

RungeKuttaEngine:

- Fulfills IPropagationEngine interface

```
virtual ExtrapolationCode
propagate(ExCellCharged&
    const Surface&
    PropDirection
    std::vector<ExtrapolationMode::eMode> purpose
    = {ExtrapolationMode::Destination},
    const BoundaryCheck& bcheck
    bool
    ecCell,
    si,
    dir = alongMomentum,
    = true,
    returnCurvilinear = true) const = 0;
```

“New” Propagator:

- Templated on Implementation
“AtlasStepper” or “EigenStepper”

```
/// @brief propagate track parameters
template <typename TrackParameters,
    typename Surface,
    typename ObserverList,
    typename AbortList>
obs_list_result_t<
typename Impl::template return_parameter_type<TrackParameters,
Surface>,
ObserverList>
propagate(const TrackParameters& start,
    const Surface& target,
    const Options<ObserverList, AbortList>& options) const
```