 LBT - IIF

Template to complete for requesting new commands at the IIF:

Template to complete by the instrument team:

- **suggested name**:
  <command name, where each separate word starts with a capital letter>
- **brief description**:
  <free text, succinctly but completely describing the actions that are requested to be triggered inside the TCS upon receipt of this command; also, all parameters that are being passed shall be described here>
- **units**:
  <units for all parameters>
- **precisions**:
  <precisions for all parameters>
- **ranges**:
  <ranges for all parameters>
- **expected result**:
  <most commands only have success/failure-type results, others (like GetParamter) have true results (like a data dictionary value); details shall be described here>

Suggested command prototype returned by the TCS team for discussion with the instrument teams:

- suggested C++ prototypes: <doxygen-compliant head comments for the new IIF method's prototype; this includes a description of all parameters with their respective units, ranges and precisions, plus C++ method / function declarations>

Example for the already implemented IIF command RotatePrimary
==========

- **suggested command name**: RotatePrimary
- **brief description**: rotate M1 around the a given rotational reference point on the optical axis; rotation specified by an angle magnitude (in microradians),a rotational direction (in radians), and the reference point's distance (on axis) above the mirror (in mm).
- **units**: Angle: microradians
  Direction: radians
  Distance of ref. Point: millimeters
- **precisions**: Angle & Direction: 0.001 microradians
  Distance: 0.001 mm
- **ranges**: Angel: 0.000 and 999.999 microradians
  Direction: 0.000000 and 6.283185307 radians
  Distance: 1000 and 100000 mm
- **expected result**: success or failure indication, only
- **suggested C++ prototypes**:

```
/**
* Rotating the primary mirror around a fixed reference point.
```

```
*
* @param side           the side this command applies to; possible values are
*                       "left", "right", or "both".
* @param distance       the value specifying the the rotation reference
*                       point's distance in millimeters (on axis) above the
*                       mirror; possible values are between 999.999 and
*                       99999.999 mm (precision is 0.001 mm)
* @param angleMagnitude the value specifying the magnitude of the rotation
*                       angle in microradians; possible values are generally
*                       between 0.000 and 999.999 (precision is 0.001
*                       microradians), but specific limits depend on the
*                       current value of the distance parameter
* @param direction      the value specifying the direction of the rotation
*                       in radians; possible values are between 0.000000000 and
*                       6.283185307 (precision is 0.001 microradians), where 0
*                       signifies the positive direction along the x axis, and
*                       PI/2 the positive direction along the y axis
*
* @return a pointer to the Result instance identifying this IIF command
*
*/
```

[C++ version]

```
Result* IIF::RotatePrimary (  const char * side, double distance,
                              double angleMagnitude, double direction);
```