

From ISO 19156 Observations, measurements and samples - Conceptual observation schema

```
classDiagram
    class Observation {
        <<interface>>
        +phenomenonTime: TM_Object
        +resultTime: TM_Object
        +validTime: TM_Period[0..*]
        constraints
        {/rec/obs-cpt/Observation/observedProperty-con}
        {/rec/obs-cpt/Observation/observingProcedure-con}
        {/rec/obs-cpt/Observation/result-con}
        {/rec/obs-cpt/Observation/uom-con}
        {/req/obs-cpt/Observation/uom}
    }
    class Procedure {
        <<interface>>
        +observingProcedure
    }
    class Observer {
        <<interface>>
        +observer
    }
    class ObservableProperty {
        <<interface>>
        +observedProperty
    }
    class Host {
        <<interface>>
        +host
    }
    Observation "0..*" --> "1" Observation : +member
    Procedure "0..*" --> "1" Procedure : +observingProcedure
    Observer "0..*" --> "1" Observer : +observer
    ObservableProperty "0..*" --> "1" ObservableProperty : +observedProperty
    Host "0..*" --> "1" Host : +host
```

The diagram illustrates the Conceptual observation schema from ISO 19156. It consists of five interfaces and their relationships:

- «interface» Observation**: Contains attributes `phenomenonTime: TM_Object`, `resultTime: TM_Object`, and `validTime: TM_Period[0..*]`. It also lists constraints: `{/rec/obs-cpt/Observation/observedProperty-con}`, `{/rec/obs-cpt/Observation/observingProcedure-con}`, `{/rec/obs-cpt/Observation/result-con}`, `{/rec/obs-cpt/Observation/uom-con}`, and `{/req/obs-cpt/Observation/uom}`. It has a self-referencing relationship `+member` with multiplicity `0..*` at the Observation end.
- «interface» Procedure**: Contains the attribute `observingProcedure`. It has a self-referencing relationship `+observingProcedure` with multiplicity `0..*` at the Procedure end.
- «interface» Observer**: Contains the attribute `observer`. It has a self-referencing relationship `+observer` with multiplicity `0..*` at the Observer end.
- «interface» ObservableProperty**: Contains the attribute `observedProperty`. It has a self-referencing relationship `+observedProperty` with multiplicity `0..*` at the ObservableProperty end.
- «interface» Host**: Contains the attribute `host`. It has a self-referencing relationship `+host` with multiplicity `0..*` at the Host end.

