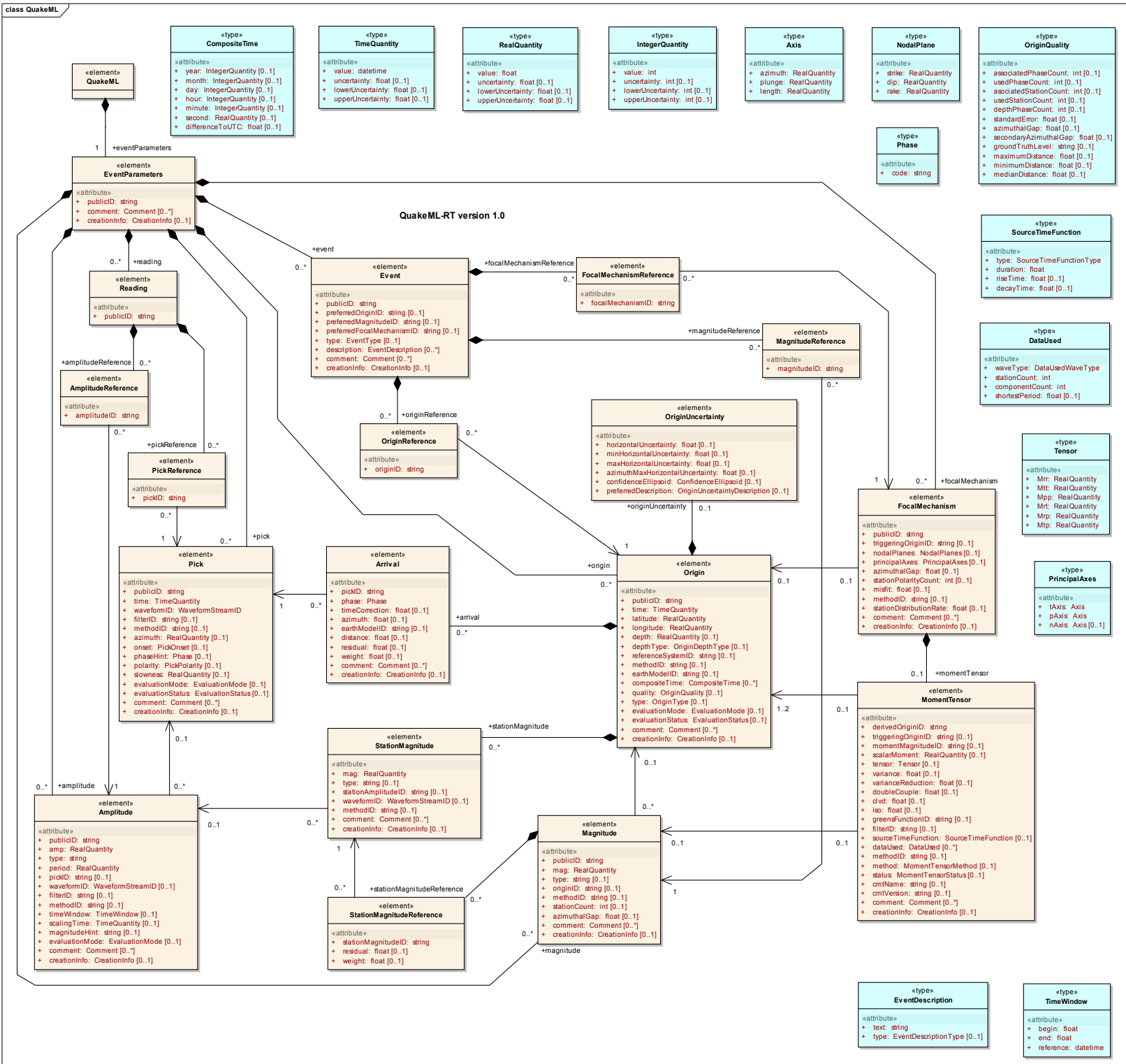
class QuakeML
QuakeML-RT version 1.0
«element» QuakeML
«element» EventParameters
«attribute»
+ publicID: string
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+eventParameters
«type» CompositeTime
«attribute»
+ year: IntegerQuantity [0..1]
+ month: IntegerQuantity [0..1]
+ day: IntegerQuantity [0..1]
+ hour: IntegerQuantity [0..1]
+ minute: IntegerQuantity [0..1]
+ second: RealQuantity [0..1]
+ differenceToUTC: float [0..1]
«type» TimeQuantity
«attribute»
+ value: datetime
+ uncertainty: float [0..1]
+ lowerUncertainty: float [0..1]
+ upperUncertainty: float [0..1]
«type» RealQuantity
«attribute»
+ value: float
+ uncertainty: float [0..1]
+ lowerUncertainty: float [0..1]
+ upperUncertainty: float [0..1]
«type» IntegerQuantity
«attribute»
+ value: int
+ uncertainty: int [0..1]
+ lowerUncertainty: int [0..1]
+ upperUncertainty: int [0..1]
«type» Axis
«attribute»
+ azimuth: RealQuantity
+ plunge: RealQuantity
+ length: RealQuantity
«type» NodalPlane
«attribute»
+ strike: RealQuantity
+ dip: RealQuantity
+ rake: RealQuantity
«type» OriginQuality
«attribute»
+ associatedPhaseCount: int [0..1]
+ usedPhaseCount: int [0..1]
+ associatedStationCount: int [0..1]
+ usedStationCount: int [0..1]
+ depthPhaseCount: int [0..1]
+ standardError: float [0..1]
+ azimuthalGap: float [0..1]
+ secondaryAzimuthalGap: float [0..1]
+ groundTruthLevel: string [0..1]
+ maximumDistance: float [0..1]
+ minimumDistance: float [0..1]
+ medianDistance: float [0..1]
«type» Phase
«attribute»
+ code: string
«type» SourceTimeFunction
«attribute»
+ type: SourceTimeFunctionType
+ duration: float
+ riseTime: float [0..1]
+ decayTime: float [0..1]
«type» DataUsed
«attribute»
+ waveType: DataUsedWaveType
+ stationCount: int
+ componentCount: int
+ shortestPeriod: float [0..1]
«type» Tensor
«attribute»
+ Mrr: RealQuantity
+ Mtt: RealQuantity
+ Mpp: RealQuantity
+ Mrt: RealQuantity
+ Mrp: RealQuantity
+ Mtp: RealQuantity
«type» PrincipalAxes
«attribute»
+ tAxis: Axis
+ pAxis: Axis
+ nAxis: Axis [0..1]
«element» Reading
«attribute»
+ publicID: string
+reading
«element» AmplitudeReference
«attribute»
+ amplitudeID: string
+amplitudeReference
«element» PickReference
«attribute»
+ pickID: string
+pickReference
«element» Event
«attribute»
+ publicID: string
+ preferredOriginID: string [0..1]
+ preferredMagnitudeID: string [0..1]
+ preferredFocalMechanismID: string [0..1]
+ type: EventType [0..1]
+ description: EventDescription [0..*]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+event
«element» FocalMechanismReference
«attribute»
+ focalMechanismID: string
+focalMechanismReference
«element» MagnitudeReference
«attribute»
+ magnitudeID: string
+magnitudeReference
«element» OriginReference
«attribute»
+ originID: string
+originReference
«element» OriginUncertainty
«attribute»
+ horizontalUncertainty: float [0..1]
+ minHorizontalUncertainty: float [0..1]
+ maxHorizontalUncertainty: float [0..1]
+ azimuthMaxHorizontalUncertainty: float [0..1]
+ confidenceEllipsoid: ConfidenceEllipsoid [0..1]
+ preferredDescription: OriginUncertaintyDescription [0..1]
+originUncertainty
«element» FocalMechanism
«attribute»
+ publicID: string
+ triggeringOriginID: string [0..1]
+ nodalPlanes: NodalPlanes [0..1]
+ principalAxes: PrincipalAxes [0..1]
+ azimuthalGap: float [0..1]
+ stationPolarityCount: int [0..1]
+ misfit: float [0..1]
+ methodID: string [0..1]
+ stationDistributionRate: float [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+focalMechanism
«element» Pick
«attribute»
+ publicID: string
+ time: TimeQuantity
+ waveformID: WaveformStreamID
+ filterID: string [0..1]
+ methodID: string [0..1]
+ azimuth: RealQuantity [0..1]
+ onset: PickOnset [0..1]
+ phaseHint: Phase [0..1]
+ polarity: PickPolarity [0..1]
+ slowness: RealQuantity [0..1]
+ evaluationMode: EvaluationMode [0..1]
+ evaluationStatus: EvaluationStatus [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+pick
«element» Arrival
«attribute»
+ pickID: string
+ phase: Phase
+ timeCorrection: float [0..1]
+ azimuth: float [0..1]
+ earthModelID: string [0..1]
+ distance: float [0..1]
+ residual: float [0..1]
+ weight: float [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+arrival
«element» Origin
«attribute»
+ publicID: string
+ time: TimeQuantity
+ latitude: RealQuantity
+ longitude: RealQuantity
+ depth: RealQuantity [0..1]
+ depthType: OriginDepthType [0..1]
+ referenceSystemID: string [0..1]
+ methodID: string [0..1]
+ earthModelID: string [0..1]
+ compositeTime: CompositeTime [0..*]
+ quality: OriginQuality [0..1]
+ type: OriginType [0..1]
+ evaluationMode: EvaluationMode [0..1]
+ evaluationStatus: EvaluationStatus [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+origin
«element» MomentTensor
«attribute»
+ derivedOriginID: string
+ triggeringOriginID: string [0..1]
+ momentMagnitudeID: string [0..1]
+ scalarMoment: RealQuantity [0..1]
+ tensor: Tensor [0..1]
+ variance: float [0..1]
+ varianceReduction: float [0..1]
+ doubleCouple: float [0..1]
+ clvd: float [0..1]
+ iso: float [0..1]
+ greensFunctionID: string [0..1]
+ filterID: string [0..1]
+ sourceTimeFunction: SourceTimeFunction [0..1]
+ dataUsed: DataUsed [0..*]
+ methodID: string [0..1]
+ method: MomentTensorMethod [0..1]
+ status: MomentTensorStatus [0..1]
+ cmtName: string [0..1]
+ cmtVersion: string [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+momentTensor
«element» StationMagnitude
«attribute»
+ mag: RealQuantity
+ type: string [0..1]
+ stationAmplitudeID: string [0..1]
+ waveformID: WaveformStreamID [0..1]
+ methodID: string [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+stationMagnitude
«element» Amplitude
«attribute»
+ publicID: string
+ amp: RealQuantity
+ type: string
+ period: RealQuantity
+ pickID: string [0..1]
+ waveformID: WaveformStreamID [0..1]
+ filterID: string [0..1]
+ methodID: string [0..1]
+ timeWindow: TimeWindow [0..1]
+ scalingTime: TimeQuantity [0..1]
+ magnitudeHint: string [0..1]
+ evaluationMode: EvaluationMode [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+amplitude
«element» Magnitude
«attribute»
+ publicID: string
+ mag: RealQuantity
+ type: string [0..1]
+ originID: string [0..1]
+ methodID: string [0..1]
+ stationCount: int [0..1]
+ azimuthalGap: float [0..1]
+ comment: Comment [0..*]
+ creationInfo: CreationInfo [0..1]
+magnitude
«element» StationMagnitudeReference
«attribute»
+ stationMagnitudeID: string
+ residual: float [0..1]
+ weight: float [0..1]
+stationMagnitudeReference
«type» EventDescription
«attribute»
+ text: string
+ type: EventDescriptionType [0..1]
«type» TimeWindow
«attribute»
+ begin: float
+ end: float
+ reference: datetime
«enumeration» DataUsedWaveType
«enum»
BODY_WAVES = body waves
P_BODY_WAVES = P body waves
LONG_PERIOD_BODY_WAVES = long-period bod...
SURFACE_WAVES = surface waves
INTERMEDIATE_PERIOD_SURFACE_WAVES = intermediate-pe...
LONG_PERIOD_MANTLE_WAVES = long-period man...
UNKNOWN = unknown
«enumeration» EventType
«enum»
EARTHQUAKE = earthquake
EXPLOSION = explosion
QUARRY_BLAST = quarry blast
CHEMICAL_EXPLOSION = chemical explosion
NUCLEAR_EXPLOSION = nuclear explosion
LANDSLIDE = landslide
DEBRIS_AVALANCHE = debris avalanche
ROCKSLIDE = rockslide
MINE_COLLAPSE = mine collapse
VOLCANIC_ERUPTION = volcanic eruption
METEOR_IMPACT = meteor impact
PLANE_CRASH = plane crash
BUILDING_COLLAPSE = building collapse
SONIC_BOOM = sonic boom
NOT_EXISTING = not existing
NULL = null
OTHER_EVENT = other
«enumeration» EventDescriptionType
«enum»
FELT_REPORT = felt report
FLINN_ENGDAHL_REGION = Flinn-Engdahl region
LOCAL_TIME = local time
TECTONIC_SUMMARY = tectonic summary
NEAREST_CITIES = nearest cities
EARTHQUAKE_NAME = earthquake name
REGION_NAME = region name
«enumeration» MomentTensorMethod
«enum»
CMT_0 = CMT - general m...
CMT_1 = CMT - moment te...
CMT_2 = CMT - double-co...
TELESEISMIC = teleseismic
REGIONAL = regional
«type» CreationInfo
«attribute»
+ agencyID: string [0..1]
+ agencyURI: string [0..1]
+ author: string [0..1]
+ authorURI: string [0..1]
+ creationTime: datetime [0..1]
+ version: string [0..1]
«type» WaveformStreamID
«attribute»
+ networkCode: string
+ stationCode: string
+ channelCode: string [0..1]
+ locationCode: string [0..1]
+ resourceURI: string [0..1]
«enumeration» OriginDepthType
«enum»
FROM_LOCATION = from location
FROM_MOMENT_TENSOR_INVERSION = from moment ten...
BROAD_BAND_P_WAVEFORMS = from modeling o...
CONSTRAINED_BY_DEPTH_PHASES = constrained by ...
CONSTRAINED_BY_DIRECT_PHASES = constrained by ...
OPERATOR_ASSIGNED = operator assigned
OTHER_ORIGIN_DEPTH = other
«enumeration» OriginType
«enum»
HYPOCENTER = hypocenter
CENTROID = centroid
AMPLITUDE = amplitude
MACROSEISMIC = macroseismic
RUPTURE_START = rupture start
RUPTURE_END = rupture end
«enumeration» PickPolarity
«enum»
UP = up
DOWN = down
UNDECIDABLE = undecidable
«type» Comment
«attribute»
+ text: string
+ id: string [0..1]
+ creationInfo: CreationInfo [0..1]
«type» ConfidenceEllipsoid
«attribute»
+ azimuth1: float [0..1]
+ dip1: float [0..1]
+ standardError1: float [0..1]
+ azimuth2: float [0..1]
+ dip2: float [0..1]
+ standardError2: float [0..1]
+ standardError3: float [0..1]
«enumeration» OriginUncertaintyDescription
«enum»
HORIZONTAL = horizontal unce...
ELLIPSE = uncertainty ellipse
ELLIPSOID = confidence ellipsoid
PDF = probability den...
«enumeration» PickOnset
«enum»
EMERGENT = emergent
IMPULSIVE = impulsive
QUESTIONABLE = questionable
«enumeration» SourceTimeFunctionType
«enum»
BOX_CAR = box car
TRIANGLE = triangle
TRAPEZOID = trapezoid
UNKNOWN = unknown
«enumeration» MomentTensorStatus
«enum»
CMT_S = standard CMT so...
CMT_Q = quick CMT solution
«enumeration» EvaluationStatus
«enum»
PRELIMINARY = preliminary
CONFIRMED = confirmed
REJECTED = rejected
«enumeration» EvaluationMode
«enum»
MANUAL = manual
AUTOMATIC = automatic
«type» NodalPlanes
«attribute»
+ nodalPlane1: NodalPlane [0..1]
+ nodalPlane2: NodalPlane [0..1]
+ preferredPlane: int [0..1]