MICROSCOPE Specifications
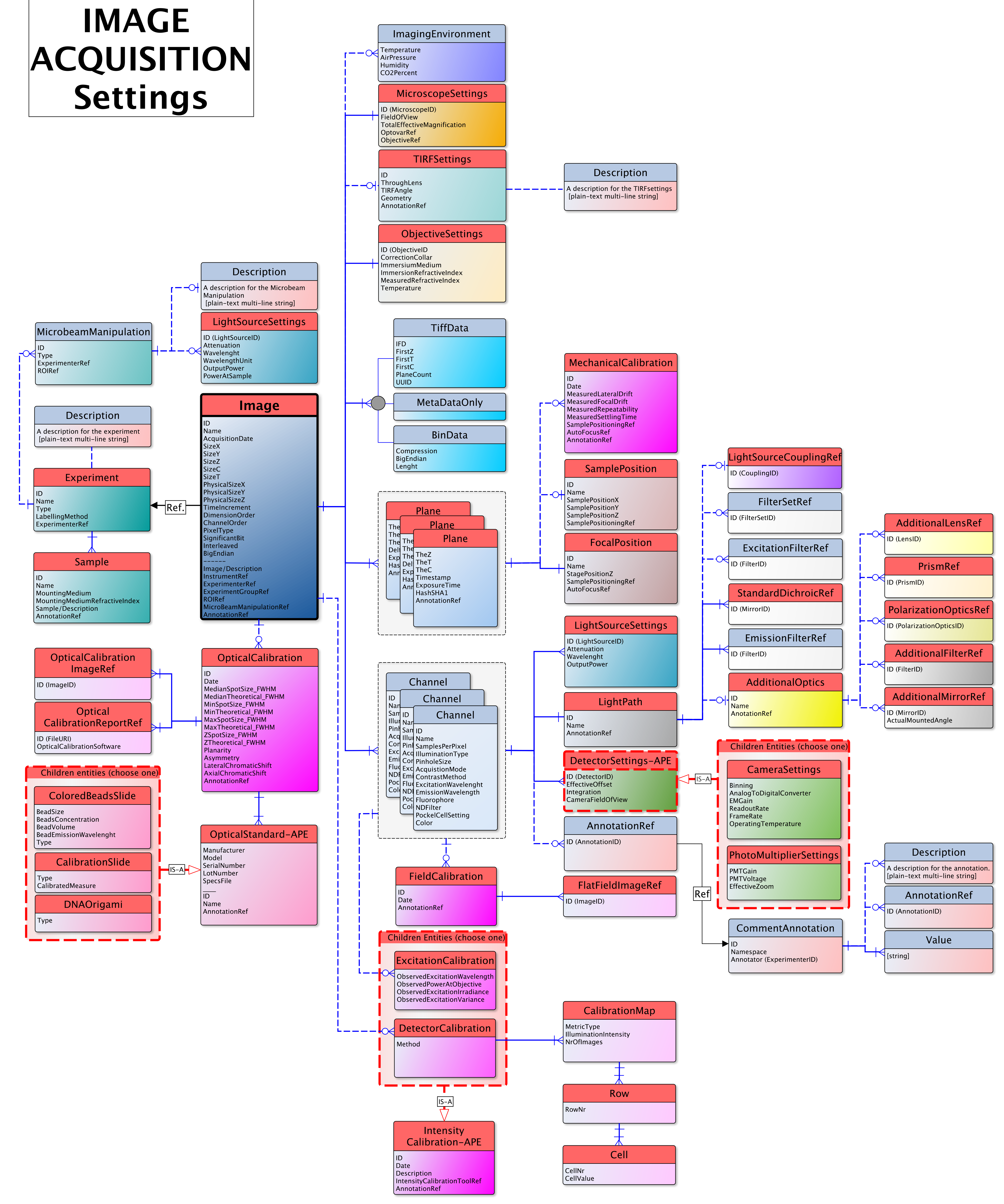
IMAGE ACQUISITION Settings

MicroscopeBody
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Type
EyepieceFieldNumber
AnnotationRef

MicroscopeTable
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Type
TableWidth
TableDepth
AnnotationRef

IntensityCalibrationTool
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Type
AnnotationRef

Children Entities (choose one)
Laser
Type
LaserMedium
Wavelength
FrequencyMultiplication
Tuneable
Pulse
PockelCell
RepetitionRate

Filament
Type

Arc
Type

LightEmittingDiode
Type

GenericExcitationSource
(The GenericExcitationSource element is used to represent a source as a collection of key/value pairs, stored in a Map. The other lightsource objects should always be used in preference to this if possible)

LightSource–APE
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
NominalPowerOutput
AnnotationRef

LightSourceCoupling–APE
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Transmittance
CouplingLensRef
AnnotationRef

Pump
ID (LightSourceID)

LEDModule
PeakWavelength
PeakPower
ProjectionAngle
CutIn
CutOut
WavelengthProfileFile

Children Entities (choose one)
LightGuide
Type
PeakWavelength
RefractiveIndex
NumericalAperture
AcceptanceAngle
Geometry
MaterialName
SingleMode
WaveguideMode
Diameter

Direct
Mount
Type

WavelengthRange
CutIn
CutOut
WavelengthProfileFile

Children Entities (choose one)
SampleHolder
MechanicalStage
PiezoelectricStage

Stage–APE
MovementAxes
XTravelRange
YTravelRange

Children Entities (choose one)
ObjectiveTurret Focus
PiezoelectricObjective Focus

SamplePositioning–APE
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
ZTravelRange
Resolution
PositionLinearityError
Repeatability
SettlingTime
MaxVelocity
AnnotationRef

Optovar
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
LensType
Magnification
AnnotationRef

AcquisitionSoftware
ID
Name
Manufacturer
Author
Version
ReleaseDate
Build
Publication
AnnotationRef

AutoFocus
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Type
AnnotationRef

Instrument
ID
Name
AnnotationRef

Objective
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Correction
NominalMagnification
CalibratedMagnification
LensNA
NominalImmersionMedium
Infinity
CoverslipThickness
WorkingDistance
Iris
ObjectiveFieldNumber
ParfocalizingDistance
BackFocalPlanePosition
AnnotationRef

ExcitationFilterRef
ID (FilterID)

StandardDichroicRef
ID (MirrorID)

EmissionFilterRef
ID (FilterID)

FilterSet
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
AnnotationRef

Children Entities (choose one)
ExcitationFilter
EmissionFilter
AdditionalFilter

Children Entities (choose one)
AdditionalLens
ID (FilterID)
CouplingLens
ID (FilterID)
RelayLens
ID (FilterID)

Lens–APE
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Type
Geometry
Construction
Magnification
AttenuationCoefficient
RadiusOfCurvature
FocalDistanceToObject
FocalDistanceToImage
FocalLenght
MaterialName
GlassCode
RefractiveIndex
AbbeNumber
Density
Diameter
AnnotationRef

Filter
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Type
ReflectionCoating
FilterWheel
TransmittanceProfileFile
AnnotationRef

TransmittanceRange
CutIn
CutOut
Transmittance

Prism
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Type
Geometry
Reflectance
PrismAngle
AngleOfIncidence
DeviationAngle
MaterialName
GlassCode
RefractiveIndex
AbbeNumber
Density
WavelengthRange
AnnotationRef

WavelengthRange
CutIn
CutOut
WavelengthProfileFile

PolarizationOptics
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Function
Construction
Reflectance
Retardation
MaterialName
GlassCode
WavelengthRange
AnnotationRef

WavelengthRange
CutIn
CutOut
WavelengthProfileFile

Children Entities (choose one)
Reflector
Beamsplitter
Transmittance
TransmissionAngle

Dichroic–APE
DichroicType
HardSputtered
AttenuationLevel
AttenuationMethod
Technology
Polarization
FilterWheel
TransmittanceProfileFile
ReflectanceProfileFile

Mirror–APE
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Reflectance
MirrorType
Geometry
AngleOfIncidence
RadiusOfCurvature
SubstrateType
SubstrateMaterial
GlassCode
AnnotationRef

TransmittanceRange
CutIn
CutOut
Transmittance

ReflectanceRange
CutIn
CutOut

Children Entities (choose one)
StandardDichroic
AdditionalDichroic

Children Entities (choose one)
PhotoMultiplier
Type (PMT, Photodiode, APD)
RadiantSensitivity

Camera–APE
Illumination
ArrayWidth
ArrayHeight
PixelWidth
PixelHeight
ImageWidth
ImageHeight
PixelWellCapacity
RegisterWellCapacity
VerticalClockSpeed
MaximumFrameRate
MaximumReadoutRate

Detector–APE
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
Gain
Mount
ReadNoise
DetectorNoiseModel
DarkCurrentRate
PeakWavelength
QuantumEfficiencyatPeakWavelength
AmbientOperatingTemperature
AbientOperatingHumidity
AnnotationRef

GenericDetector
(The GenericDetector element is used to represent a source as a collection of key/value pairs, stored in a Map. The other lightsource objects should always be used in preference to this if possible.)

Children Entities (choose one)
CCD
Type (Conventional, EMCCD, Interline)
IntensifiedCCD
Type (Conventional, EBCCD)
AnalogVideo
CMOS
Type (Conventional, Scientific)
ReadOutMode

WavelengthRange
CutIn
CutOut
WavelengthProfileFile

ImagingEnvironment
Temperature
AirPressure
Humidity
CO2Percent

MicroscopeSettings
ID (MicroscopeID)
FieldOfView
TotalEffectiveMagnification
OptovarRef
ObjectiveRef

TIRFSettings
ID
ThroughLens
TIRFAngle
Geometry
AnnotationRef

Description
A description for the TIRFSettings [plain-text multi-line string]

ObjectiveSettings
ID (ObjectiveID)
CorrectionCollar
ImmersiumMedium
MeasuredRefractiveIndex
MeasuredRefractiveIndex
Temperature

TiffData
IFD
FirstZ
FirstT
FirstC
PlaneCount
UUID

MetaDataOnly

BinData
Compression
BigEndian
Lenght

Description
A description for the Microbeam Manipulation [plain-text multi-line string]

MicrobeamManipulation
ID
Type
ExperimenterRef
ROIRef

LightSourceSettings
ID (LightSourceID)
Attenuation
Wavelenght
WavelenghtUnit
OutputPower
PowerAtSample

Description
A description for the experiment [plain-text multi-line string]

Experiment
ID
Name
Type
LabellingMethod
ExperimenterRef

Sample
ID
Name
MountingMedium
MountingMediumRefractiveIndex
Sample/Description

Image
ID
Name
AcquisitionDate
SizeX
SizeY
SizeZ
SizeC
SizeT
PhysicalSizeX
PhysicalSizeY
PhysicalSizeZ
TimeIncrement
DimensionOrder
ChannelOrder
PixelType
SignificantBit
Interleaved
BigEndian
—
Image/Description
InstrumentRef
ExperimenterRef
ExperimentGroupRef
ROIRef
MicroBeamManipulationRef
Sample/Description
AnnotationRef

Plane
TheZ
TheT
TheC
DeltaT
ExposureTime
PositionX
HashSHA1
AnnotationRef

Channel
ID
Name
SamplesPerPixel
IlluminationType
PinholeSize
AcquisitionMode
ContrastMethod
ExcitationWavelenght
EmissionWavelength
Fluorophore
NDIFilter
PockelCellSetting
Color

OpticalCalibrationImageRef
ID (ImageID)

OpticalCalibrationReportRef
ID (FileURI)
OpticalCalibrationSoftware

OpticalCalibration
ID
Date
MedianSpotSize_FWHM
MedianTheoretical_FWHM
MinSpotSize_FWHM
MinTheoretical_FWHM
MaxSpotSize_FWHM
MaxTheoretical_FWHM
ZSpotSize_FWHM
ZTheoretical_FWHM
Planarity
Asymmetry
LateralChromaticShift
AxialChromaticShift
AnnotationRef

OpticalStandard–APE
Manufacturer
Model
SerialNumber
LotNumber
SpecsFile
ID
Name
AnnotationRef

Children entities (choose one)
ColoredBeadsSlide
BeadSize
BeadsConcentration
BeadVolume
BeadEmissionWavelength
Type
CalibrationSlide
Type
CalibratedMeasure
DNAOrigami
Type

MechanicalCalibration
ID
Date
MeasuredLateralDrift
MeasuredFocalDrift
MeasuredRepeatability
MeasuredSettlingTime
SamplePositioningRef
AutoFocusRef
AnnotationRef

SamplePosition
ID
Name
SamplePositionX
SamplePositionY
SamplePositionZ
SamplePositioningRef

FocalPosition
ID
Name
StagePositionZ
SamplePositioningRef
AutoFocusRef

LightSourceSettings
ID (LightSourceID)
Attenuation
Wavelenght
OutputPower

LightPath
ID
Name
AnnotationRef

DetectorSettings–APE
ID (DetectorID)
EffectiveOffset
Integration
CameraFieldOfView

AnnotationRef
ID (AnnotationID)

FlatFieldImageRef
ID (ImageID)

FieldCalibration
ID
Date
AnnotationRef

LightSourceCouplingRef
ID (CouplingID)

FilterSetRef
ID (FilterSetID)

ExcitationFilterRef
ID (FilterID)

StandardDichroicRef
ID (MirrorID)

EmissionFilterRef
ID (FilterID)

AdditionalOptics
ID
Name
AnnotationRef

AdditionalLensRef
ID (LensID)

PrismRef
ID (PrismID)

PolarizationOpticsRef
ID (PolarizationOpticsID)

AdditionalFilterRef
ID (FilterID)

AdditionalMirrorRef
ID (MirrorID)
ActualMountedAngle

Children Entities (choose one)
CameraSettings
Binning
AnalogToDigitalConverter
EMGain
ReadoutRate
FrameRate
OperatingTemperature

PhotoMultiplierSettings
PMTGain
PMTVoltage
EffectiveZoom

Description
A description for the annotation. [plain-text multi-line string]

AnnotationRef
ID (AnnotationID)

CommentAnnotation
ID
Namespace
Annotator (ExperimenterID)

Value
[string]

CalibrationMap
MetricType
IlluminationIntensity
NrOfImages

Children Entities (choose one)
ExcitationCalibration
ObservedExcitationWavelength
ObservedPowerAtObjective
ObservedExcitationIrradiance
ObservedExcitationVariance

DetectorCalibration
Method

IntensityCalibration–APE
ID
Date
Description
IntensityCalibrationToolRef
AnnotationRef

Row
RowNr

Cell
CellNr
CellValue

IS-A

Ref.