To create the modified version of the “dicomContours.m” file, first duplicate the original MATLAB file, move it to the “Utilities” folder and apply to the file the following changes:

| **LINE**\* | **BEFORE**\* | **AFTER** |
| --- | --- | --- |
| **52** | properties (SetAccess = private, GetAccess = public) | properties (SetAccess = public, GetAccess = public) |
| **70** | ROIs = array2table(double.empty(0,5),... | ROIs = array2table(double.empty(0,7),... |
| **71** | 'VariableNames',{'Number','Name','ContourData','GeometricType','Color'}); | 'VariableNames',{'Number','Name','ContourData','GeometricType','Color','SOPClassUID','SOPInstanceUID'}); |
| **96** | function obj = addContour(obj, Number, Name, ContourData, GeometricType, varargin) | function obj = addContour(obj, Number, Name, ContourData, GeometricType, referencedUID, varargin) |
| **122** | narginchk(5,6); | narginchk(6,7); |
| **123** | if(nargin == 5) | if(nargin == 6) |
| **154** | obj.ROIs = [obj.ROIs;{Number,Name,{ContourData},{GeometricType},Color}]; | obj.ROIs = [obj.ROIs;{Number,Name,{ContourData},{GeometricType},Color, {referencedUID.SOPClassUID}',{referencedUID.SOPInstanceUID}'}]; |
| **509** | contourSeq = makeContourSeq(contours,geometricType,contourDataField,geometricTypeField,numberOfContourPoints); | SOPClassUID = obj.ROIs.SOPClassUID{rowNum}; SOPInstanceUID = obj.ROIs.SOPInstanceUID{rowNum}; contourSeq = makeContourSeq(contours,geometricType,SOPClassUID,SOPInstanceUID,contourDataField,geometricTypeField,numberOfContourPoints); |
| **517** | function contourSeq = makeContourSeq(contours,geometricType,contourDataField,geometricTypeField,numberOfContourPoints) | function contourSeq = makeContourSeq(contours,geometricType,SOPClassUID,SOPInstanceUID,contourDataField,geometricTypeField,numberOfContourPoints) |
| **524** | contourSeq.(subItem).(numberOfContourPoints) = numel(contours{contourNum}); | contourSeq.(subItem).(numberOfContourPoints) = size(contours{contourNum}, 1); |
| **525** | contourSeq.(subItem).(contourDataField) = reshape((contours{contourNum})',[],1); | contourSeq.(subItem).(contourDataField) = reshape((contours{contourNum})',[],1); |
|  | (to be inserted between line 526 and line 527) | try contourSeq.(subItem).ContourImageSequence.Item\_1.ReferencedSOPClassUID = SOPClassUID{contourNum}; contourSeq.(subItem).ContourImageSequence.Item\_1.ReferencedSOPInstanceUID = SOPInstanceUID{contourNum}; catch, end |

\* Changes were applied to the 2020a version of the original “dicomContours.m” class.