

Features	Quantification variability (Qvar)											
	OSEM				PSF2				PSF7			
	FBW=0.25	FBN=64	FBN=32	FBN=16	FBW=0.25	FBN=64	FBN=32	FBN=16	FBW=0.25	FBN=64	FBN=32	FBN=16
firstorder_10Percentile	3.5%	3.7%	3.7%	3.7%	5.9%	4.4%	4.4%	4.4%	5.2%	2.0%	2.0%	2.0%
firstorder_90Percentile	2.1%	1.9%	1.9%	1.9%	2.1%	2.0%	2.0%	2.0%	1.8%	1.6%	1.6%	1.6%
firstorder_Energy	2.8%	3.0%	3.0%	3.0%	2.6%	3.1%	3.1%	3.1%	2.0%	2.1%	2.1%	2.1%
firstorder_Entropy	1.3%	1.3%	1.3%	1.7%	1.5%	2.2%	2.6%	3.0%	2.0%	1.0%	0.9%	17.2%
firstorder_InterquartileRange	7.9%	5.6%	5.6%	5.6%	7.3%	8.4%	8.4%	8.4%	7.5%	5.9%	5.9%	5.9%
firstorder_Kurtosis	3.0%	4.0%	4.0%	4.0%	6.2%	4.5%	4.5%	4.5%	2.3%	2.2%	2.2%	2.2%
firstorder_Maximum	2.7%	2.0%	2.0%	2.0%	4.3%	4.6%	4.6%	4.6%	1.8%	1.5%	1.5%	1.5%
firstorder_Mean	1.9%	1.7%	1.7%	1.7%	2.0%	2.1%	2.1%	2.1%	1.2%	1.4%	1.4%	1.4%
firstorder_MeanAbsoluteDeviation	2.1%	3.1%	3.1%	3.1%	2.6%	4.3%	4.3%	4.3%	5.6%	3.2%	3.2%	3.2%
firstorder_Median	2.5%	2.3%	2.3%	2.3%	1.6%	2.2%	2.2%	2.2%	1.3%	1.6%	1.6%	1.6%
firstorder_Minimum	7.1%	2.7%	2.7%	2.7%	11.1%	4.9%	4.9%	4.9%	9.9%	1.2%	1.2%	1.2%
firstorder_Range	3.8%	3.3%	3.3%	3.3%	8.5%	5.9%	5.9%	5.9%	5.9%	1.8%	1.8%	1.8%
firstorder_RobustMeanAbsoluteDeviation	3.2%	4.8%	4.8%	4.8%	3.5%	5.8%	5.8%	5.8%	5.4%	3.6%	3.6%	3.6%
firstorder_RootMeanSquared	1.8%	1.6%	1.6%	1.6%	1.9%	2.0%	2.0%	2.0%	1.1%	1.4%	1.4%	1.4%
firstorder_Skewness	20.0%	48.0%	48.0%	48.0%	20.0%	80.0%	80.0%	80.0%	7.0%	22.0%	22.0%	22.0%
firstorder_TotalEnergy	2.8%	3.0%	3.0%	3.0%	2.6%	3.1%	3.1%	3.1%	2.0%	2.1%	2.1%	2.1%
firstorder_Uniformity	5.7%	6.1%	5.5%	5.5%	5.7%	80.0%	10.0%	9.0%	6.9%	4.3%	4.1%	33.9%
firstorder_Variance	4.5%	5.9%	5.9%	5.9%	5.6%	7.0%	7.0%	7.0%	10.9%	5.7%	5.7%	5.7%
glcm_Autocorrelation	6.5%	7.4%	6.7%	8.6%	12.9%	16.6%	14.9%	15.4%	13.5%	3.4%	3.8%	160.7%
glcm_ClusterProminence	9.1%	13.7%	14.0%	13.3%	15.8%	30.9%	31.0%	31.8%	24.1%	10.8%	10.5%	219.2%
glcm_ClusterShade	11.0%	14.0%	14.0%	14.0%	19.0%	41.0%	40.0%	40.0%	27.0%	21.0%	22.0%	206.0%
glcm_ClusterTendency	4.7%	7.7%	7.8%	7.5%	6.8%	15.3%	15.4%	15.7%	13.2%	5.3%	5.3%	167.3%
glcm_Contrast	4.3%	6.5%	6.6%	6.5%	7.2%	13.3%	13.2%	13.8%	7.0%	3.5%	3.5%	166.8%
glcm_Correlation	4.6%	7.0%	7.0%	6.8%	12.0%	23.4%	23.3%	22.7%	8.8%	6.3%	6.1%	6.1%
glcm_DifferenceAverage	2.4%	3.3%	3.3%	3.3%	3.9%	6.5%	6.5%	7.0%	3.7%	1.6%	1.6%	83.5%
glcm_DifferenceEntropy	0.8%	1.3%	1.4%	1.7%	1.6%	1.5%	2.1%	2.8%	1.5%	0.5%	1.1%	19.2%
glcm_DifferenceVariance	4.3%	8.1%	8.3%	8.2%	7.3%	15.0%	14.8%	15.1%	6.7%	4.0%	4.0%	166.1%
glcm_Id	3.2%	4.8%	4.0%	3.5%	4.5%	5.5%	4.4%	4.0%	2.5%	2.6%	1.7%	28.5%
glcm_Idm	5.6%	9.4%	7.5%	5.9%	7.6%	10.2%	7.0%	6.1%	4.2%	6.2%	4.1%	35.4%
glcm_Idmn	0.4%	0.4%	0.4%	0.4%	0.8%	0.6%	0.7%	0.8%	0.4%	0.3%	0.4%	0.5%
glcm_Idn	0.4%	0.4%	0.3%	0.4%	1.0%	0.7%	0.8%	0.9%	0.5%	0.3%	0.4%	0.6%
glcm_lmc1	2.0%	3.0%	3.0%	5.0%	3.0%	3.0%	4.0%	6.0%	6.0%	2.0%	3.0%	47.0%
glcm_lmc2	0.3%	0.0%	0.3%	0.9%	0.2%	0.1%	0.4%	1.3%	0.7%	0.0%	0.2%	4.8%
glcm_InverseVariance	4.4%	8.3%	7.5%	5.0%	7.7%	7.4%	7.5%	6.0%	3.8%	8.1%	6.5%	34.9%
glcm_JointAverage	3.4%	3.9%	3.5%	4.5%	6.7%	8.3%	7.5%	7.7%	6.9%	1.7%	2.0%	78.4%

glcm_JointEnergy	8.8%	5.9%	7.3%	9.5%	6.5%	6.4%	8.3%	11.6%	8.2%	5.1%	6.5%	28.9%
glcm_JointEntropy	1.3%	1.0%	1.2%	1.5%	1.1%	1.2%	1.5%	2.3%	1.0%	0.9%	0.9%	6.8%
glcm_MaximumProbability	14.8%	14.1%	12.6%	14.2%	10.9%	11.9%	14.1%	17.2%	17.9%	10.2%	14.0%	33.3%
glcm_SumAverage	3.4%	3.9%	3.5%	4.5%	6.7%	8.3%	7.5%	7.7%	6.9%	1.7%	2.0%	78.4%
glcm_SumEntropy	1.1%	1.3%	1.3%	1.5%	0.9%	1.6%	1.8%	2.2%	1.7%	0.8%	0.9%	11.9%
glrlm_GrayLevelNonUniformity	2.9%	5.9%	4.7%	4.5%	4.7%	6.0%	6.4%	5.8%	7.2%	5.1%	5.3%	33.0%
glrlm_GrayLevelNonUniformityNormalized	4.9%	5.9%	5.2%	4.6%	5.3%	8.7%	9.6%	8.5%	6.6%	4.2%	3.7%	33.4%
glrlm_GrayLevelVariance	3.9%	6.4%	6.5%	6.0%	5.4%	13.9%	13.7%	14.2%	11.1%	3.9%	4.1%	167.9%
glrlm_HighGrayLevelRunEmphasis	6.8%	7.1%	6.7%	8.8%	12.5%	15.3%	13.7%	14.0%	13.3%	2.9%	3.2%	162.4%
glrlm_LongRunEmphasis	1.9%	0.8%	1.7%	3.0%	1.7%	1.1%	1.6%	2.8%	1.3%	1.0%	1.2%	7.9%
glrlm_LongRunHighGrayLevelEmphasis	6.3%	6.7%	5.8%	7.4%	12.9%	15.1%	13.3%	13.4%	13.1%	4.3%	5.1%	148.9%
glrlm_LongRunLowGrayLevelEmphasis	31.2%	30.5%	18.6%	24.9%	28.6%	26.7%	24.2%	23.1%	32.6%	29.9%	29.0%	46.9%
glrlm_LowGrayLevelRunEmphasis	30.9%	30.3%	18.3%	23.2%	25.9%	27.1%	24.2%	22.0%	30.5%	28.1%	25.8%	44.8%
glrlm_RunEntropy	1.1%	1.1%	1.0%	1.2%	1.5%	2.0%	2.2%	2.2%	2.0%	0.9%	0.9%	13.8%
glrlm_RunLengthNonUniformity	3.8%	3.4%	3.8%	3.8%	3.1%	4.2%	4.5%	5.2%	2.0%	3.4%	3.6%	7.8%
glrlm_RunLengthNonUniformityNormalized	1.2%	0.6%	1.2%	2.0%	1.2%	0.7%	1.2%	1.6%	0.9%	0.6%	0.8%	5.5%
glrlm_RunPercentage	0.6%	0.3%	0.6%	1.0%	0.6%	0.4%	0.6%	0.9%	0.4%	0.3%	0.4%	2.9%
glrlm_RunVariance	14.4%	16.1%	15.8%	16.2%	20.4%	24.9%	18.8%	15.4%	10.1%	17.0%	11.5%	41.8%
glrlm_ShortRunEmphasis	0.5%	0.2%	0.5%	0.8%	0.5%	0.3%	0.5%	0.7%	0.4%	0.3%	0.3%	2.2%
glrlm_ShortRunHighGrayLevelEmphasis	7.2%	7.2%	7.2%	9.9%	12.4%	15.3%	13.9%	14.2%	13.4%	2.6%	2.9%	165.8%
glrlm_ShortRunLowGrayLevelEmphasis	30.9%	30.2%	18.2%	22.8%	25.3%	27.3%	24.3%	21.8%	30.0%	27.7%	25.0%	44.2%
glszm_GrayLevelNonUniformity	5.2%	4.1%	4.6%	6.8%	7.1%	7.3%	5.6%	8.2%	6.9%	77.4%	6.3%	25.3%
glszm_GrayLevelNonUniformityNormalized	3.6%	4.0%	7.0%	7.5%	5.6%	7.8%	77.9%	78.7%	7.2%	3.5%	4.6%	36.2%
glszm_GrayLevelVariance	6.4%	6.3%	8.2%	10.8%	6.9%	12.7%	9.8%	9.6%	13.5%	4.1%	5.5%	173.4%
glszm_HighGrayLevelZoneEmphasis	11.0%	81.2%	10.6%	11.2%	13.2%	15.2%	13.7%	11.7%	14.2%	3.3%	4.5%	171.3%
glszm_LargeAreaEmphasis (HILAE)	14.2%	80.7%	20.0%	15.5%	25.8%	14.6%	90.4%	23.4%	13.7%	153.0%	14.2%	46.4%
glszm_LargeAreaHighGrayLevelEmphasis	13.6%	84.1%	20.0%	13.4%	29.9%	20.9%	93.2%	17.9%	18.8%	19.0%	20.0%	41.4%
glszm_LargeAreaLowGrayLevelEmphasis	28.7%	33.6%	28.3%	39.4%	49.6%	23.3%	26.2%	48.5%	44.9%	39.3%	42.5%	60.9%
glszm_LowGrayLevelZoneEmphasis	32.2%	30.5%	21.1%	21.0%	19.0%	28.4%	24.3%	19.7%	24.8%	20.3%	16.4%	43.7%
glszm_SizeZoneNonUniformity	16.1%	78.7%	12.2%	16.2%	82.7%	9.1%	10.8%	15.4%	12.0%	78.4%	10.8%	65.6%
glszm_SizeZoneNonUniformityNormalized	10.4%	4.3%	7.3%	11.2%	8.4%	5.1%	3.9%	7.7%	8.6%	4.6%	6.6%	31.2%
glszm_SmallAreaEmphasis	5.4%	1.9%	3.6%	6.6%	3.9%	2.3%	1.9%	4.8%	5.1%	2.0%	3.2%	15.3%
glszm_SmallAreaHighGrayLevelEmphasis	16.3%	11.8%	15.3%	12.7%	14.8%	16.0%	15.3%	20.2%	19.8%	6.9%	11.3%	185.8%
glszm_SmallAreaLowGrayLevelEmphasis	33.1%	30.0%	25.6%	26.4%	35.2%	30.0%	26.2%	26.5%	27.4%	23.7%	21.2%	39.7%
glszm_ZoneEntropy	1.4%	1.2%	2.0%	2.1%	1.8%	1.5%	1.8%	2.7%	2.1%	0.9%	1.3%	9.8%
glszm_ZonePercentage	6.4%	2.9%	77.2%	6.7%	6.9%	76.9%	78.6%	81.0%	4.7%	3.5%	77.7%	30.3%
glszm_ZoneVariance	19.4%	26.0%	31.4%	16.5%	44.4%	38.2%	44.9%	29.3%	20.1%	38.9%	27.7%	53.5%
ngtdm_Busyness	7.5%	14.0%	11.4%	14.6%	13.2%	14.1%	11.9%	12.9%	18.4%	7.4%	9.2%	48.6%

ngtdm_Coarseness	5.2%	10.1%	9.2%	9.5%	4.8%	6.7%	7.1%	5.3%	6.6%	6.5%	7.1%	13.6%
ngtdm_Complexity	7.3%	8.1%	8.6%	10.8%	11.6%	18.9%	15.1%	15.6%	16.2%	4.2%	4.6%	202.3%
ngtdm_Contrast	8.9%	10.4%	8.9%	9.3%	13.2%	11.1%	15.0%	19.0%	7.5%	8.3%	8.8%	111.7%
ngtdm_Strength	7.4%	6.9%	8.5%	10.1%	9.6%	10.1%	7.8%	11.4%	16.3%	5.9%	6.4%	154.0%
glcm_Autocorrelation **	6.5%	6.8%	6.8%	8.9%	11.2%	11.4%	11.5%	13.4%	13.5%	50.9%	3.8%	160.7%
glcm_ClusterProminence **	9.0%	12.2%	12.6%	11.4%	16.7%	17.9%	18.2%	19.6%	24.3%	57.3%	10.6%	219.2%
glcm_ClusterShade **	11.0%	13.0%	13.0%	12.0%	19.0%	27.0%	27.0%	25.0%	27.0%	62.0%	23.0%	207.0%
glcm_ClusterTendency **	4.7%	7.2%	7.3%	6.8%	7.1%	9.7%	9.8%	10.3%	13.2%	52.0%	5.2%	167.3%
glcm_Contrast **	4.3%	6.5%	6.6%	6.3%	5.7%	8.8%	8.6%	9.1%	6.9%	51.8%	3.4%	166.7%
glcm_Correlation **	4.4%	7.0%	7.1%	7.1%	7.9%	19.2%	19.2%	18.8%	8.7%	5.5%	5.4%	5.5%
glcm_DifferenceAverage **	2.4%	3.1%	3.1%	2.8%	2.8%	4.7%	4.6%	5.0%	3.6%	39.6%	1.6%	83.5%
glcm_DifferenceEntropy **	0.6%	1.0%	1.3%	1.4%	0.9%	1.0%	1.3%	1.7%	1.2%	17.2%	0.6%	22.1%
glcm_DifferenceVariance **	4.1%	7.5%	7.9%	7.9%	6.5%	8.8%	8.5%	8.4%	6.8%	51.9%	4.0%	166.0%
glcm_Id **	3.3%	3.6%	3.1%	2.6%	3.9%	5.7%	4.3%	3.9%	2.5%	44.7%	1.7%	28.4%
glcm_Idm **	5.7%	7.1%	6.0%	4.4%	6.6%	10.5%	7.1%	6.3%	4.2%	64.0%	4.2%	35.2%
glcm_Idmn **	0.4%	0.3%	0.3%	0.3%	0.7%	0.5%	0.6%	0.6%	0.4%	0.5%	0.4%	0.5%
glcm_Idn **	0.4%	0.3%	0.3%	0.3%	1.0%	0.6%	0.7%	0.7%	0.5%	0.5%	0.4%	0.6%
glcm_Imc1 **	9.0%	5.0%	7.0%	10.0%	10.0%	8.0%	8.0%	17.0%	14.0%	34.0%	9.0%	57.0%
glcm_Imc2 **	3.3%	1.2%	2.6%	4.7%	3.3%	2.0%	2.7%	6.7%	5.2%	17.9%	2.8%	22.2%
glcm_InverseVariance **	4.2%	7.0%	5.8%	3.9%	6.2%	7.7%	7.6%	5.1%	3.8%	59.2%	6.4%	34.8%
glcm_JointAverage **	3.4%	3.6%	3.6%	4.7%	5.6%	76.8%	5.8%	6.7%	6.9%	38.0%	2.0%	78.4%
glcm_JointEnergy **	12.8%	9.3%	11.7%	12.0%	14.4%	17.1%	17.8%	16.1%	14.4%	116.3%	11.8%	46.4%
glcm_JointEntropy **	1.4%	1.0%	1.4%	1.4%	1.4%	1.9%	2.1%	2.5%	1.9%	12.2%	1.1%	15.1%
glcm_MaximumProbability **	23.9%	20.3%	21.5%	21.1%	32.3%	30.2%	32.1%	28.2%	33.8%	106.8%	26.7%	46.4%
glcm_SumAverage **	3.4%	3.6%	3.6%	4.7%	5.6%	5.7%	5.8%	6.7%	6.9%	38.0%	2.0%	78.4%
glcm_SumEntropy **	0.7%	0.8%	1.0%	1.0%	0.8%	1.1%	1.6%	1.8%	1.7%	13.8%	0.6%	16.9%

Collors blue, yellow and red in Figure 1 highlights the features classified as low, middle and high variability.

** GLCM setup using only one matrix, taking into account all 13 directions simultaneously, weighted by factor 1 and summed, without an average step.