
Subject: DICOM_READ fails (!?)
Posted by [mvogel](#) on Thu, 13 Apr 2000 07:00:00 GMT
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Dear reader,

much to my surprise the IDL function DICOM_READ fails to return a phase image.
If I do the following :

```
im = lonarr(128,128)           ; to be able to hold neg vals  
im = read_dicom('h:\dicom\im_1969') ; read the image into im
```

I now have an im of type UINT, that can not handle negative values (and half of the phase image consists of negative data, truncated to zero...). However with data in another DICOM format this behaviour does not happen, and it readily reads in all the data. This seems to be a serious bug. Maybe someone can suggest me what to do... My version of IDL is 5.3 (Win32, x86)

thank you for reading

ps I attached both an IDL readable DICOM file (dumped) as well as an unreadable

dump readable file

DICOM File:

D:\Signal\ieren\eiwit\deel15-19\

MR.1.2.840.113619.2.5.1762805476.1297.954940504.48.dcm

DCM Dump Elements

Object type: ELEMENT LIST

Object size: 140584

Group: 0002, Length: 182

0002 0000 4 // META Group Length// b6 182

0002 0001 2 //META File Meta Information Version//Unimplemented

0002 0002 26 //META Media Stored SOP Class UID//

1.2.840.10008.5.1.4.1.1.4

0002 0003 48 //META Media Stored SOP Instance UID//

1.2.840.113619.2.5.1762805476.1297.954940504.48

0002 0010 20 // META Transfer Syntax UID//1.2.840.10008.1.2.1

0002 0012 22 // META Implementation Class UID//1.2.250.1.59.3.0.3.3.1

0002 0013 16 //META Implementation Version Name//ETIAM_DCMTK_331

Group: 0008, Length: 412

0008 0000 4 // ID Group Length// 19c 412

0008 0005 10 // ID Specific Character Set//ISO_IR 100

0008 0008 22 // ID Image Type//ORIGINAL\PRIMARY\OTHER

0008 0016 26 // ID SOP Class UID//1.2.840.10008.5.1.4.1.1.4

0008 0018 48 // ID SOP Instance UID//

1.2.840.113619.2.5.1762805476.1297.954940504.48

```

0008 0020      8 //      ID Study Date//20000405
0008 0021      8 //      ID Series Date//20000405
0008 0022      8 //      ID Acquisition Date//20000405
0008 0023      8 //      ID Image Date//20000405
0008 0030      6 //      ID Study Time//151503
0008 0031      6 //      ID Series Time//151725
0008 0032      6 //      ID Acquisition Time//151725
0008 0033      6 //      ID Image Time//151725
0008 0050      0 //      ID Accession Number//
0008 0060      2 //      ID Modality//MR
0008 0070     18 //      ID Manufacturer//GE MEDICAL SYSTEMS
0008 0080     12 //      ID Institution Name//AZR Dijkzigt
0008 0090      0 // ID Referring Physician's Name//
0008 1010      8 //      ID Station Name//MR01MR01
0008 1030     14 //      ID Study Description//eiwit deel 17
0008 103e     14 //      ID Series Description//eiwit deel 17
0008 1090     14 // ID Manufacturer Model Name//GENESIS_SIGNA
Group: 0009, Length: 182
0009 0000      4 //      Unknown group length//    b6 182
0009 0010     12 //      //GEMS_IDEN_01
0009 1001     14 //      //GE_GENESIS_FF
0009 1002      4 //      //MR01
0009 1004      6 //      //SIGNA
0009 1027      4 //      //38eb5905 954947845
0009 1030      8 //      //RTD0120
0009 1031      4 //      //XXXX
0009 10e3     32 //      //1.2.840.113619.1.1.4.1762805476
0009 10e6      2 //      //08
0009 10e7      4 //      //b2c103af -1295973457
0009 10e9      4 //      //38eb5905 954947845
Group: 0010, Length: 94
0010 0000      4 //      PAT Group Length//    5e 94
0010 0010     14 //      PAT Patient Name//eiwit deel 17
0010 0020     10 //      PAT Patient ID//geservice
0010 0030      0 //      PAT Patient Birthdate//
0010 0040      2 //      PAT Patient Sex//O
0010 1010      4 //      PAT Patient Age//000Y
0010 1030      8 //      PAT Patient Weight//1.000000
0010 21b0      0 // PAT Additional Patient History//
Group: 0011, Length: 30
0011 0000      4 //      Unknown group length//    1e 30
0011 0010     12 //      //GEMS_PATI_01
0011 1010      2 //      // 0 0
Group: 0018, Length: 496
0018 0000      4 //      ACQ Group Length//    1f0 496
0018 0020      2 //      ACQ Scanning Sequence//GR
0018 0021      8 //      ACQ Sequence Variant//SS\SP\SK
0018 0022     36 // ACQ Scan Options//FAST_GEMS \VB_GEMS \SEQ_GEMSIMP_GEMS

```

```

0018 0023    2 //    ACQ MR Acquisition Type //2D
0018 0025    2 //          ACQ Angio Flag//N
0018 0050    8 //          ACQ Slice Thickness//5.000000
0018 0080   10 //          ACQ Repetition Time// 31.400000
0018 0081   10 //          ACQ Echo Time// 15.200000
0018 0083    8 //          ACQ Number of Averages//1.000000
0018 0084   16 //          ACQ Imaging Frequency// 638627610.00000
0018 0085    2 //          ACQ Imaged Nucleus//H1
0018 0086    2 //          ACQ Echo Number// 1
0018 0087    6 //    ACQ Magnetic Field Strength//15000
0018 0088   10 //    ACQ Spacing Between Slices//10.000000
0018 0091    2 //          ACQ Echo Train Length//0
0018 0093   10 //          ACQ Percent Sampling//100.000000
0018 0094   10 //ACQ Percent Phase Field of View// 75.000000
0018 0095   10 //          ACQ Pixel Bandwidth// 37.578125
0018 1000   16 //    ACQ Device Serial Number//0000000000RTD0120
0018 1020    2 //          ACQ Software Version//08
0018 1050    8 //          ACQ Spatial Resolution//0.937500
0018 1088    2 //          ACQ Heart Rate//0
0018 1090    2 //    ACQ Cardiac Number of Images//0
0018 1094    2 //          ACQ Trigger Window//0
0018 1100   10 //    ACQ Reconstruction Diameter//120.000000
0018 1250    4 //          ACQ Receiving Coil//HEAD
0018 1251    4 //          ACQ Transmitting Coil//HEAD
0018 1310    8 //          ACQ Acquisition Matrix// 0 0
0018 1312    4 //    ACQ Phase Encoding Direction//ROW
0018 1314    2 //          ACQ Flip Angle//10
0018 1315    2 //          ACQ Variable Flip Angle//N
0018 1316    8 //          ACQ SAR//0.005013
0018 5100    4 //          ACQ Patient Position//HFS
Group: 0019, Length: 1196
0019 0000    4 //          Unknown group length// 4ac 1196
0019 0010   12 //                      //GEMS_ACQU_01
0019 100f   10 //                      //401.200012
0019 1011    2 //                      // 0 0
0019 1012    2 //                      // 16 22
0019 1017    2 //                      // 8 8
0019 1018    2 //                      //A
0019 1019   10 //                      //10.900000
0019 101a    2 //                      //A
0019 101b    8 //                      //0.000000
0019 101e   10 //                      //90.000000
0019 105a    4 //                      //Unimplemented
0019 107d    2 //                      //0
0019 107e    2 //                      // 1 1
0019 107f    8 //                      //0.000000
0019 1081    2 //                      // 1 1
0019 1084    8 //                      //0.010025

```

0019 1085	2 //	// 1 1
0019 1087	8 //	//0.000000
0019 1088	2 //	// 0 0
0019 108a	2 //	// b 11
0019 108b	2 //	// f 15
0019 108d	2 //	//0
0019 108f	2 //	// 0 0
0019 1090	2 //	// 0 0
0019 1091	8 //	//0.000000
0019 1092	4 //	// 0 0
0019 1093	10 //	//638627610
0019 1094	2 //	// 60 96
0019 1095	2 //	// b 11
0019 1096	2 //	// f 15
0019 1097	4 //	// 0 0
0019 1098	2 //	// 2 2
0019 109b	2 //	// 1 1
0019 109c	4 //	//fgre
0019 109d	14 //	//19990724142618
0019 109e	4 //	//FGRE
0019 109f	2 //	// 1 1
0019 10a0	2 //	// 0 0
0019 10a1	2 //	// 0 0
0019 10a2	4 //	// 600 1536
0019 10a3	4 //	// 0 0
0019 10a4	2 //	// 0 0
0019 10a7	8 //	//0.000000
0019 10a8	8 //	//0.000000
0019 10a9	8 //	//0.000000
0019 10aa	8 //	//0.000000
0019 10ab	10 //	//10.000000
0019 10ac	8 //	//0.000000
0019 10ad	8 //	//0.000000
0019 10ae	8 //	//0.000000
0019 10af	8 //	//0.000000
0019 10b0	8 //	//0.000000
0019 10b1	8 //	//0.000000
0019 10b2	8 //	//0.000000
0019 10b3	8 //	//0.000000
0019 10b4	8 //	//0.000000
0019 10b5	8 //	//0.000000
0019 10b6	8 //	//0.000000
0019 10b7	8 //	//0.000000
0019 10b8	8 //	//0.000000
0019 10b9	8 //	//0.000000
0019 10ba	8 //	//0.000000
0019 10bb	8 //	//0.000000
0019 10bc	8 //	//0.000000

```

0019 10bd      8 //          //0.000000
0019 10be      8 //          //0.000000
0019 10c0      2 //          // 0 0
0019 10c1      2 //          // 0 0
0019 10c2      2 //          //2706 9990
0019 10c3      2 //          //2706 9990
0019 10c4      2 //          //2706 9990
0019 10c5      2 //          //2706 9990
0019 10c6      2 //          //2706 9990
0019 10c7      2 //          //2706 9990
0019 10c8      2 //          // 0 0
0019 10c9      2 //          // 0 0
0019 10ca      2 //          // 0 0
0019 10cb      2 //          // 0 0
0019 10cc      2 //          // 0 0
0019 10cd      2 //          // 0 0
0019 10ce      2 //          // 2 2
0019 10cf      2 //          // 0 0
0019 10d2      2 //          // 0 0
0019 10d3      0 //          //
0019 10d5      2 //          // 0 0
0019 10d7      2 //          // 0 0
0019 10d8      2 //          // 0 0
0019 10d9      8 //          //0.000000
0019 10df      8 //          //0.000000
0019 10e0      8 //          //0.000000
0019 10e2      8 //          //0.000000
0019 10f2      2 //          // fa 250
0019 10f9      2 //          //96
Group: 0020, Length: 366
0020 0000      4 //          REL Group Length// 16e 366
0020 000d      48 //          REL Study Instance UID//
1.2.840.113619.2.5.1762805476.1297.954940503.776
0020 000e      48 //          REL Series Instance UID//
1.2.840.113619.2.5.1762805476.1297.954940504.47
0020 0010      6 //          REL Study ID//50362
0020 0011      2 //          REL Series Number// 2
0020 0012      2 //          REL Acquisition Number// 2
0020 0013      2 //          REL Image Number// 1
0020 0032      32 //          REL Image Position Patient//
-50.000000\ -10.900000\ 56.599998
0020 0037      56 //          REL Image Orientation (Patient)//
1.000000\0.000000\0.000000\0.000000\0.000000\
-1.000000
0020 0052      48 //          REL Frame of Reference UID//
1.2.840.113619.2.5.1762805476.1315.954940480.865
0020 0060      0 //          REL Laterality//
0020 0110      2 //          REL Temporal Resolution// 0

```

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0020 1040      2 //REL Position Reference Indicator//NA
0020 1041     14 //      REL Slice Location// 10.8999996185
Group: 0021, Length: 372
0021 0000      4 //      Unknown group length//   174 372
0021 0010     12 //      //GEMS_RELTA_01
0021 1003      2 //      // 0 0
0021 1005      2 //      //08
0021 1007      4 //      //590738be 1493645502
0021 1018      2 //      //08
0021 1019      4 //      //59046dbe 1493462462
0021 1035      2 //      // 1 1
0021 1036      2 //      // 4 4
0021 1037      2 //      // 10 16
0021 104f      2 //      // 1 1
0021 1050      2 //      // 0 0
0021 1051      8 //      //0.000000
0021 1052      8 //      //0.000000
0021 1053      8 //      //0.000000
0021 1056      4 //      // 0 0
0021 1057      4 //      // 0 0
0021 1058      4 //      // 0 0
0021 1059      4 //      // 0 0
0021 105a      4 //      // 0 0
0021 105b     10 //      //180.000000
0021 105c     10 //      //45.000000
0021 105d     12 //      //50000.000000
0021 105e      8 //      //0.000000
0021 105f      8 //      //0.000000
0021 1081      8 //      //0.000000
0021 1082      8 //      //0.000000
0021 1083      2 //      //0
0021 1084      2 //      //0
Group: 0023, Length: 58
0023 0000      4 //      Unknown group length//   3a 58
0023 0010     12 //      //GEMS_STDY_01
0023 1070      8 //      //Unimplemented
0023 1074      4 //      // 0 0
0023 107d      2 //      // 0 0
Group: 0025, Length: 128
0025 0000      4 //      Unknown group length//   80 128
0025 0010     12 //      //GEMS_SERS_01
0025 1006      2 //      // 16 22
0025 1007      4 //      // fa 250
0025 1010      4 //      // 0 0
0025 1011      2 //      // 0 0
0025 1014      4 //      // 0 0
0025 1017      4 //      // 0 0
0025 1018      4 //      // 0 0

```

```

0025 1019      4 //          // fa 250
0025 101a      8 //          //MR01MR01
Group: 0027, Length: 306
0027 0000      4 //      Unknown group length// 132 306
0027 0010     12 //          //GEMS_IMAG_01
0027 1006      4 //          // 0 0
0027 1010      2 //          // 0 0
0027 1030      0 //          //
0027 1031      2 //          // 1 1
0027 1032      2 //          // 16 22
0027 1033      4 //          // a400 41984
0027 1035      2 //          // 8 8
0027 1036      4 //          // 8 8
0027 1040      2 //          //A
0027 1041      4 //          //Unimplemented
0027 1042      4 //          //Unimplemented
0027 1043      4 //          //Unimplemented
0027 1044      4 //          //Unimplemented
0027 1045      4 //          //Unimplemented
0027 1046      4 //          //Unimplemented
0027 1047      4 //          //Unimplemented
0027 1048      4 //          //Unimplemented
0027 1049      4 //          //Unimplemented
0027 104a      4 //          //Unimplemented
0027 104b      4 //          //Unimplemented
0027 104c      4 //          //Unimplemented
0027 104d      4 //          //Unimplemented
0027 1060      4 //          //Unimplemented
0027 1061      4 //          //Unimplemented
0027 1062      4 //          //Unimplemented
Group: 0028, Length: 150
0028 0000      4 //      IMG Group Length// 96 150
0028 0002      2 //      IMG Samples Per Pixel// 1 1
0028 0004     12 // IMG Photometric Interpretation//MONOCHROME2
0028 0010      2 //          IMG Rows// 100 256
0028 0011      2 //          IMG Columns// 100 256
0028 0030     18 //          IMG Pixel Spacing// 0.468750\0.468750
0028 0100      2 //          IMG Bits Allocated// 10 16
0028 0101      2 //          IMG Bits Stored// 10 16
0028 0102      2 //          IMG High Bit// f 15
0028 0103      2 //      IMG Pixel Representation// 1 1
0028 0120      2 //      IMG Pixel Padding Value// 0 0
0028 1050      4 //          IMG Window Center//3184
0028 1051      4 //          IMG Window Width//6368
Group: 0029, Length: 102
0029 0000      4 //      Unknown group length// 66 102
0029 0010     12 //          //GEMS_IMPS_01
0029 1015      4 //          // 0 0

```

```

0029 1016      4 //          //    0 0
0029 1017      4 //          //    0 0
0029 1018      4 //          //    0 0
0029 1026      2 //          //  2 2
0029 1034      4 //          // 4000 16384
0029 1035      4 //          //    0 0
Group: 0043, Length: 5086
0043 0000      4 //      Unknown group length// 13de 5086
0043 0010     12 //          //GEMS_PARM_01
0043 1001      2 //          //  1 1
0043 1002      2 //          //  0 0
0043 1003      2 //          //  0 0
0043 1004      2 //          //  0 0
0043 1006      2 //          //  0 0
0043 1007      2 //          //  0 0
0043 1008      2 //          //  0 0
0043 1009      2 //          //  0 0
0043 100a      2 //          //  1 1
0043 100b      8 //          //0.000000
0043 100c     10 //          //66.000000
0043 100d      8 //          //0.000000
0043 100e      8 //          //0.000000
0043 100f      8 //          //0.004010
0043 1010      2 //          //  0 0
0043 101c      2 //          //  0 0
0043 101d      2 //          //  0 0
0043 1028     80 //          //Unimplemented
*0043 1029    2068 //          //Unimplemented
0043 102a    2420 //          //Unimplemented
0043 102c      2 //          //  0 0
0043 102d      0 //          //
0043 102e      0 //          //
0043 102f      2 //          //  1 1
0043 1030      2 //          //  0 0
0043 1032      2 //          //  2 2
0043 1033      4 //          //Unimplemented
0043 1034      4 //          //1200
0043 1035      4 //          //    0 0
0043 1036      4 //          //    0 0
0043 1037      4 //          //    0 0
0043 1038     96 //          //Unimplemented
0043 1039     12 //          // 0\ 0\ 0\ 7
0043 1060     24 //          // 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0
Group: 7fe0, Length: 131080
7fe0 0000      4 //      PXL Group Length// 20008 131080
7fe0 0010 131072 //      PXL Pixel Data//Data on disk
DCM Dump Elements Complete

```

dump unreadable file

DICOM File: h:\dicom\im_1696

DCM Dump Elements

Object type: ELEMENT LIST

Object size: 35020

Group: 0002, Length: 156

0002 0000 4 // META Group Length// 9c 156
0002 0001 2 //META File Meta Information Version//Unimplemented
0002 0002 26 //META Media Stored SOP Class UID//
1.2.840.10008.5.1.4.1.1.4
0002 0003 48 //META Media Stored SOP Instance UID//
1.3.46.670589.5.2.11.2157696412.955581605.516150
0002 0010 20 // META Transfer Syntax UID//1.2.840.10008.1.2.1
0002 0012 20 // META Implementation Class UID//1.3.46.670589.5.2.11

Group: 0008, Length: 826

0008 0000 4 // ID Group Length// 33a 826
0008 0001 4 // ID Length to End (RET)// 8784 34692
0008 0005 10 // ID Specific Character Set//ISO_IR 100
0008 0008 26 // ID Image Type//
ORIGINAL\PRIMARY\PHASE MAP
0008 0016 26 // ID SOP Class UID//
1.2.840.10008.5.1.4.1.1.4
0008 0018 48 // ID SOP Instance UID//
1.3.46.670589.5.2.11.2157696412.955581605.516150
0008 0020 8 // ID Study Date//20000412
0008 0021 8 // ID Series Date//20000412
0008 0022 8 // ID Acquisition Date//20000412
0008 0023 8 // ID Image Date//20000413
0008 0030 14 // ID Study Time//233833.000000
0008 0031 14 // ID Series Time//235516.650000
0008 0032 14 // ID Acquisition Time//235516.650000
0008 0033 14 // ID Image Time//001006.634000
0008 0050 2 // ID Accession Number//1
0008 0060 2 // ID Modality//MR
0008 0070 24 // ID Manufacturer//Philips Medical Systems
0008 0080 16 // ID Institution Name//A.Z.R. Dijkzigt
0008 0090 0 // ID Referring Physician's Name//
0008 1010 10 // ID Station Name//001P01MR01
0008 1030 16 // ID Study Description//Late night show
0008 1090 12 // ID Manufacturer Model Name//Gyroscan NT
0008 1140 366 // ID Referenced Image Sequence//SEQUENCE

DCM Dump Sequence

DCM Dump Elements

Object type: ELEMENT LIST

Object size: 114

Group: 0008, Length: 102
0008 0000 4 // ID Group Length// 66 102
0008 0001 4 // ID Length to End (RET)// 5a 90
0008 1150 26 // ID Referenced SOP Class UID//
1.2.840.10008.5.1.4.1.1.4
0008 1155 48 // ID Referenced SOP Instance UID//
1.3.46.670589.5.2.11.2157696412.955581499.799204
DCM Dump Elements Complete

DCM Dump Elements

Object type: ELEMENT LIST

Object size: 114

Group: 0008, Length: 102
0008 0000 4 // ID Group Length// 66 102
0008 0001 4 // ID Length to End (RET)// 5a 90
0008 1150 26 // ID Referenced SOP Class UID//
1.2.840.10008.5.1.4.1.1.4
0008 1155 48 // ID Referenced SOP Instance UID//
1.3.46.670589.5.2.11.2157696412.955581502.93300
DCM Dump Elements Complete

DCM Dump Elements

Object type: ELEMENT LIST

Object size: 114

Group: 0008, Length: 102
0008 0000 4 // ID Group Length// 66 102
0008 0001 4 // ID Length to End (RET)// 5a 90
0008 1150 26 // ID Referenced SOP Class UID//
1.2.840.10008.5.1.4.1.1.4
0008 1155 48 // ID Referenced SOP Instance UID//
1.3.46.670589.5.2.11.2157696412.955581502.518773
DCM Dump Elements Complete

DCM Dump Sequence Complete

Group: 0010, Length: 68
0010 0000 4 // PAT Group Length// 44 68
0010 0010 8 // PAT Patient Name//eiwit 3x
0010 0020 2 // PAT Patient ID//1
0010 0030 8 // PAT Patient Birthdate//19000101
0010 0040 2 // PAT Patient Sex//O
0010 1030 8 // PAT Patient Weight//1.000000
Group: 0018, Length: 388
0018 0000 4 // ACQ Group Length// 184 388
0018 0020 2 // ACQ Scanning Sequence//GR
0018 0021 6 // ACQ Sequence Variant//OTHER
0018 0022 0 // ACQ Scan Options//

```

0018 0023    2 //    ACQ MR Acquisition Type //2D
0018 0050   10 //    ACQ Slice Thickness// 10.000000
0018 0080   10 //    ACQ Repetition Time// 16.489000
0018 0081   10 //    ACQ Echo Time// 13.000000
0018 0083    8 //    ACQ Number of Averages//1.000000
0018 0084   10 //    ACQ Imaging Frequency// 63.902070
0018 0085    2 //    ACQ Imaged Nucleus//1H
0018 0086    2 //    ACQ Echo Number// 2
0018 0087    8 //    ACQ Magnetic Field Strength//1.500000
0018 0088   10 //    ACQ Spacing Between Slices// 10.000000
0018 0089    2 //ACQ Number of Phase Encoding Steps//89
0018 0091    2 //    ACQ Echo Train Length// 0
0018 0093   10 //    ACQ Percent Sampling// 70.312500
0018 0094   10 //ACQ Percent Phase Field of View// 65.625000
0018 1000    6 //    ACQ Device Serial Number//05103
0018 1020    6 //    ACQ Software Version//NT5.3
0018 1030   10 //    ACQ Protocol Name//DZ SURVEY
0018 1081    2 //    ACQ Low R-R Value// 0
0018 1082    2 //    ACQ High R-R Value// 0
0018 1084    2 //    ACQ Intervals Rejected// 0
0018 1088    2 //    ACQ Heart Rate//60
0018 1250    2 //    ACQ Receiving Coil//H
0018 1251    2 //    ACQ Transmitting Coil//B
0018 1312    4 //    ACQ Phase Encoding Direction//ROW
0018 1314   10 //    ACQ Flip Angle// 30.000000
0018 5100    4 //    ACQ Patient Position//HFS
Group: 0020, Length:    368
0020 0000    4 //    REL Group Length//    170 368
0020 000d   48 //    REL Study Instance UID//
1.3.46.670589.5.2.11.2157696412.955581978.646752
0020 000e   48 //    REL Series Instance UID//
1.3.46.670589.5.2.11.2157696412.955581509.437901
0020 0010    8 //    REL Study ID//52049000
0020 0011    2 //    REL Series Number// 1
0020 0012    2 //    REL Acquisition Number// 5
0020 0013    0 //    REL Image Number//
0020 0032   40 //    REL Image Position Patient//
-1.100000e+02\ -2.831595e+01\1.185693e+02
0020 0037   78 //REL Image Orientation (Patient)//
1.000000e+00\0.000000e+00\0.000000e+00\0.000000e+00\
0.000000e+00\ -1.000000e+00
0020 0052   40 //    REL Frame of Reference UID//
1.3.46.670589.5.2.11.2157696412.11836288
0020 0100    2 //REL Temporal Position Identifier//90
0020 0105    4 //REL Number of Temporal Positions// 120
0020 1040    0 //REL Position Reference Indicator//
Group: 0028, Length:    210
0028 0000    4 //    IMG Group Length//    d2 210

```

0028 0002 2 // IMG Samples Per Pixel// 1 1
0028 0004 12 // IMG Photometric Interpretation//MONOCHROME2
0028 0010 2 // IMG Rows// 80 128
0028 0011 2 // IMG Columns// 80 128
0028 0030 26 // IMG Pixel Spacing//
1.718750e+00\1.718750e+00
0028 0100 2 // IMG Bits Allocated// 10 16
0028 0101 2 // IMG Bits Stored// c 12
0028 0102 2 // IMG High Bit// b 11
0028 0103 2 // IMG Pixel Representation// 0 0
0028 1050 12 // IMG Window Center//0.000000e+00
0028 1051 12 // IMG Window Width//6.284000e+03
0028 1052 12 // IMG Rescale Intercept// -3142.000000
0028 1053 8 // IMG Rescale Slope//1.534554
0028 1054 2 // IMG Rescale Type//US
Group: 7fe0, Length: 32776
7fe0 0000 4 // PXL Group Length// 8008 32776
7fe0 0010 32768 // PXL Pixel Data//Data on disk
DCM Dump Elements Complete
