

Exif-тэги, которые может находить в метаданных изображения библиотека Pillow

```
• #
# The Python Imaging Library.
# $Id$
#
# EXIF tags
#
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#
# See the README file for information on usage and redistribution.
#

##
# This module provides constants and clear-text names for various
# well-known EXIF tags.
##

##
# Maps EXIF tags to tag names.

TAGS = {

# possibly incomplete
0x000b: "ProcessingSoftware", - нужно
0x00fe: "NewSubfileType", - не нужно
0x00ff: "SubfileType", - не нужно
0x0100: "ImageWidth",
0x0101: "ImageLength", -
0x0102: "BitsPerSample", -
0x0103: "Compression", -
0x0106: "PhotometricInterpretation",
0x0107: "Thresholding",
0x0108: "CellWidth",
0x0109: "CellLength",
0x010a: "FillOrder",
0x010d: "DocumentName",
0x010e: "ImageDescription",
0x010f: "Make", - нужно для того, чтобы найти тип линзы камеры снимка
0x0110: "Model", - нужно для того, чтобы найти тип линзы камеры снимка
0x0111: "StripOffsets",
0x0112: "Orientation",
0x0115: "SamplesPerPixel",
0x0116: "RowsPerStrip",
0x0117: "StripByteCounts",
0x0118: "MinSampleValue",
0x0119: "MaxSampleValue",
0x011a: "XResolution",
0x011b: "YResolution",
0x011c: "PlanarConfiguration",
0x011d: "PageName",
```

0x0120: "FreeOffsets",
0x0121: "FreeByteCounts",
0x0122: "GrayResponseUnit",
0x0123: "GrayResponseCurve",
0x0124: "T4Options",
0x0125: "T6Options",
0x0128: "ResolutionUnit",
0x0129: "PageNumber",
0x012d: "TransferFunction",
0x0131: "Software", - нужно
0x0132: "DateTime", - нужно
0x013b: "Artist",
0x013c: "HostComputer",
0x013d: "Predictor",
0x013e: "WhitePoint",
0x013f: "PrimaryChromaticities",
0x0140: "ColorMap",
0x0141: "HalftoneHints",
0x0142: "TileWidth",
0x0143: "TileLength",
0x0144: "TileOffsets",
0x0145: "TileByteCounts",
0x014a: "SubIFDs",
0x014c: "InkSet",
0x014d: "InkNames",
0x014e: "NumberOfInks",
0x0150: "DotRange",
0x0151: "TargetPrinter",
0x0152: "ExtraSamples",
0x0153: "SampleFormat",
0x0154: "SMinSampleValue",
0x0155: "SMaxSampleValue",
0x0156: "TransferRange",
0x0157: "ClipPath",
0x0158: "XClipPathUnits",
0x0159: "YClipPathUnits",
0x015a: "Indexed",
0x015b: "JPEGTables", - возможно понадобится в каком-то алгоритме
0x015f: "OPIProxy",
0x0200: "JPEGProc",
0x0201: "JpegIFOffset",
0x0202: "JpegIFByteCount",
0x0203: "JpegRestartInterval",
0x0205: "JpegLosslessPredictors",
0x0206: "JpegPointTransforms",
0x0207: "JpegQTables", - возможно понадобится в каком-то алгоритме
0x0208: "JpegDCTables", - возможно понадобится в каком-то алгоритме
0x0209: "JpegACTables", - возможно понадобится в каком-то алгоритме
0x0211: "YCbCrCoefficients", - возможно понадобится в каком-то алгоритме
0x0212: "YCbCrSubSampling",
0x0213: "YCbCrPositioning",
0x0214: "ReferenceBlackWhite",

0x02bc: "XMLPacket",
0x1000: "RelatedImageFileFormat",
0x1001: "RelatedImageWidth",
0x1002: "RelatedImageLength",
0x4746: "Rating",
0x4749: "RatingPercent",
0x800d: "ImageID",
0x828d: "CFARRepeatPatternDim",
0x828e: "CFAPattern",
0x828f: "BatteryLevel",
0x8298: "Copyright",
0x829a: "ExposureTime",
0x829d: "FNumber",
0x83bb: "IPTCNAA",
0x8649: "ImageResources",
0x8769: "ExifOffset",
0x8773: "InterColorProfile",
0x8822: "ExposureProgram",
0x8824: "SpectralSensitivity",
0x8825: "GPSInfo",
0x8827: "ISOSpeedRatings",
0x8828: "OECF",
0x8829: "Interlace",
0x882a: "TimeZoneOffset",
0x882b: "SelfTimerMode",
0x9000: "ExifVersion", - возможно нужно
0x9003: "DateTimeOriginal", - нужно
0x9004: "DateTimeDigitized", - нужно
0x9101: "ComponentsConfiguration",
0x9102: "CompressedBitsPerPixel",
0x9201: "ShutterSpeedValue",
0x9202: "ApertureValue",
0x9203: "BrightnessValue",
0x9204: "ExposureBiasValue",
0x9205: "MaxApertureValue",
0x9206: "SubjectDistance",
0x9207: "MeteringMode",
0x9208: "LightSource",
0x9209: "Flash",
0x920a: "FocalLength",
0x920b: "FlashEnergy",
0x920c: "SpatialFrequencyResponse",
0x920d: "Noise",
0x9211: "ImageNumber",
0x9212: "SecurityClassification",
0x9213: "ImageHistory", - нужно
0x9214: "SubjectLocation",
0x9215: "ExposureIndex",
0x9216: "TIFF/EPStandardID",
0x927c: "MakerNote",
0x9286: "UserComment",
0x9290: "SubsecTime",

0x9291: "SubsecTimeOriginal",
0x9292: "SubsecTimeDigitized",
0x9c9b: "XPTitle",
0x9c9c: "XPComment",
0x9c9d: "XPAuthor",
0x9c9e: "XPKeywords",
0x9c9f: "XPSubject",
0xa000: "FlashPixVersion",
0xa001: "ColorSpace",
0xa002: "ExifImageWidth",
0xa003: "ExifImageHeight",
0xa004: "RelatedSoundFile",
0xa005: "ExifInteroperabilityOffset",
0xa20b: "FlashEnergy",
0xa20c: "SpatialFrequencyResponse",
0xa20e: "FocalPlaneXResolution",
0xa20f: "FocalPlaneYResolution",
0xa210: "FocalPlaneResolutionUnit",
0xa214: "SubjectLocation",
0xa215: "ExposureIndex",
0xa217: "SensingMethod",
0xa300: "FileSource",
0xa301: "SceneType",
0xa302: "CFAPattern",
0xa401: "CustomRendered",
0xa402: "ExposureMode",
0xa403: "WhiteBalance",
0xa404: "DigitalZoomRatio",
0xa405: "FocalLengthIn35mmFilm",
0xa406: "SceneCaptureType",
0xa407: "GainControl",
0xa408: "Contrast",
0xa409: "Saturation",
0xa40a: "Sharpness",
0xa40b: "DeviceSettingDescription",
0xa40c: "SubjectDistanceRange",
0xa420: "ImageUniqueID",
0xa430: "CameraOwnerName",
0xa431: "BodySerialNumber",
0xa432: "LensSpecification", -нужно
0xa433: "LensMake", - нужно
0xa434: "LensModel", - нужно
0xa435: "LensSerialNumber", -нужно
0xa500: "Gamma",
0xc4a5: "PrintImageMatching",
0xc612: "DNGVersion",
0xc613: "DNGBackwardVersion",
0xc614: "UniqueCameraModel",
0xc615: "LocalizedCameraModel",
0xc616: "CFAPlaneColor",
0xc617: "CFALayout",
0xc618: "LinearizationTable",

0xc619: "BlackLevelRepeatDim",
0xc61a: "BlackLevel",
0xc61b: "BlackLevelDeltaH",
0xc61c: "BlackLevelDeltaV",
0xc61d: "WhiteLevel",
0xc61e: "DefaultScale",
0xc61f: "DefaultCropOrigin",
0xc620: "DefaultCropSize",
0xc621: "ColorMatrix1",
0xc622: "ColorMatrix2",
0xc623: "CameraCalibration1",
0xc624: "CameraCalibration2",
0xc625: "ReductionMatrix1",
0xc626: "ReductionMatrix2",
0xc627: "AnalogBalance",
0xc628: "AsShotNeutral",
0xc629: "AsShotWhiteXY",
0xc62a: "BaselineExposure",
0xc62b: "BaselineNoise",
0xc62c: "BaselineSharpness",
0xc62d: "BayerGreenSplit",
0xc62e: "LinearResponseLimit",
0xc62f: "CameraSerialNumber",
0xc630: "LensInfo",
0xc631: "ChromaBlurRadius",
0xc632: "AntiAliasStrength",
0xc633: "ShadowScale",
0xc634: "DNGPrivateData",
0xc635: "MakerNoteSafety",
0xc65a: "CalibrationIlluminant1",
0xc65b: "CalibrationIlluminant2",
0xc65c: "BestQualityScale",
0xc65d: "RawDataUniqueID",
0xc68b: "OriginalRawFileName",
0xc68c: "OriginalRawFileData",
0xc68d: "ActiveArea",
0xc68e: "MaskedAreas",
0xc68f: "AsShotICCProfile",
0xc690: "AsShotPreProfileMatrix",
0xc691: "CurrentICCProfile",
0xc692: "CurrentPreProfileMatrix",
0xc6bf: "ColorimetricReference",
0xc6f3: "CameraCalibrationSignature",
0xc6f4: "ProfileCalibrationSignature",
0xc6f6: "AsShotProfileName",
0xc6f7: "NoiseReductionApplied",
0xc6f8: "ProfileName",
0xc6f9: "ProfileHueSatMapDims",
0xc6fa: "ProfileHueSatMapData1",
0xc6fb: "ProfileHueSatMapData2",
0xc6fc: "ProfileToneCurve",
0xc6fd: "ProfileEmbedPolicy",

```
0xc6fe: "ProfileCopyright",
0xc714: "ForwardMatrix1",
0xc715: "ForwardMatrix2",
0xc716: "PreviewApplicationName",
0xc717: "PreviewApplicationVersion",
0xc718: "PreviewSettingsName",
0xc719: "PreviewSettingsDigest",
0xc71a: "PreviewColorSpace",
0xc71b: "PreviewDateTime",
0xc71c: "RawImageDigest",
0xc71d: "OriginalRawFileDigest",
0xc71e: "SubTileBlockSize",
0xc71f: "RowInterleaveFactor",
0xc725: "ProfileLookTableDims",
0xc726: "ProfileLookTableData",
0xc740: "OpcodeList1",
0xc741: "OpcodeList2",
0xc74e: "OpcodeList3",
0xc761: "NoiseProfile"
}
```

##

Maps EXIF GPS tags to tag names.

- Наверное GPS-тэги нам не нужны

```
GPSTAGS = {
0: "GPSVersionID",
1: "GPSLatitudeRef",
2: "GPSLatitude",
3: "GPSLongitudeRef",
4: "GPSLongitude",
5: "GPSAltitudeRef",
6: "GPSAltitude",
7: "GPSTimeStamp",
8: "GPSSatellites",
9: "GPSStatus",
10: "GPSMeasureMode",
11: "GPSDOP",
12: "GPSSpeedRef",
13: "GPSSpeed",
14: "GPSTrackRef",
15: "GPSTrack",
16: "GPSImgDirectionRef",
17: "GPSImgDirection",
18: "GPSMapDatum",
19: "GPSTDestLatitudeRef",
20: "GPSTDestLatitude",
21: "GPSTDestLongitudeRef",
22: "GPSTDestLongitude",
23: "GPSTDestBearingRef",
24: "GPSTDestBearing",
25: "GPSTDestDistanceRef",
```

```
26: "GPSTDestDistance",
27: "GPSProcessingMethod",
28: "GPSAreaInformation",
29: "GPSDateStamp",
30: "GPSDifferential",
31:
• "GPSHPositioningError",
}
```