

1: microWorld of Gems Publications - Official Website

The internal world of gemstones reveals mineralogical clues to trace a gem's origin and what has happened to it on its way from the mine to the jeweler. Enhancements and treatments are even more of a factor today since the average gem collector has the infinite resources of the Internet to research and explore the secrets of the gem trade.

The Internal World of Gemstones This sapphire is screwed. A bizarre negative crystal seems to have grown in a corkscrew-like pattern Photo: Pala International In our quest to understand the complete story of gemstones we look internally to fully appreciate their external beauty. The photos were taken in an effort to learn and appreciate the gems that we see every day. We can use the internal characteristics of gemstones to extrapolate the conditions in which they were formed, including temperature and pressure, and how that relates to the geological and geographical region they may have been associated with. The original locality of a particular gemstone can be traced back to the source by diagnostic features like a specific solid crystal inclusion or the presence of a 3-phase inclusion, just to name a couple. Enhancements and treatments are even more of a factor today since the average gem collector has the infinite resources of the Internet to research and explore the secrets of the gem trade. Understanding internal characteristics can help identify the presence of heat treatment and distinguish a natural from a synthetic. This bubble is in liquid inside of a negative crystal which is in a quartz cabochon host. In other words, a two-phase inclusion that happens to be in a negative crystal. Wimon Manorotkul The father of modern day inclusion studies is the late Dr. His extensive research and cataloging of gems and their inclusions has established a standard by which gems are evaluated. Volume III will be available in the near future. The Photoatlas series was coauthored by the world renowned inclusion specialist John I. You can find a copy of these books and more about the coauthor J. His work on gemstone inclusions includes over 20, photomicrographs, which are now housed at the Richard T. Read more on Dr. A really good night inside a sunstone amongst the hematite platelets. This phenomenon is produced by interference colors from oblique illumination. See more from this gemstone below. Wimon Manorotkul We will revisit some of these classic internal features that originally inspired Dr. We also hope to bring the importance of this knowledge to the forefront of collecting and buying gemstones because of the overwhelming amount of treatments, synthetics, and imitations that are circulating in the gem trade. While highlighting some of the scientific aspects of gemology we also want to share the beauty and intrigue that can be found as we look just a little bit closer and expand our understanding of the genesis of gemstones. Randomly oriented hematite platelets exhibit interference colors under oblique illumination. The host is a very unusual sunstone from Tanzania. Wimon Manorotkul Party colors. Photomicrograph showing the illuminated hematite platelets. These formations usually have a tiny negative crystal near the center. This particular peridot is from Arizona. Wimon Manorotkul Single black tourmaline needle in quartz. Precision cutting positioned the needle at the culet and extending perpendicular to the table so the tourmaline is reflected in a kaleidoscope-like effect. Wimon Manorotkul Internal beauty. Needles and platelets flashing spectral colors following the octahedral-like phantom in a micrograph of a purple spinel from our August featured gemstone. See more inclusion photomicrographs here. Another view of a negative crystal that seems to have grown in a corkscrew-like pattern in a sapphire. Pala International Surreal sceptre. An unusual tube growth formation with larger terminating crystals in this Mexican fire opal, our July featured stone. See more photomicrographs here. This is an exceptional example of the red body color with play-of-color. From the Magdalena mining district. Jason Stephenson Light rise over Planet Opal. A close-up view of the source of the color in this Iloviznando opal. Jason Stephenson Horsetail inclusion, the identifying mark of excellence in this Russian demantoid garnet, our May featured stone. See more on this gemstone here. Read more about this photomicrograph. Thomas Shofner, Palmetto Gems The two inclusion photomicrographs included below were featured in the write-up on our featured gemstone for July The aurora-like inclusions above are actually interwoven bands of horsetails. This is from a 2. An inclusion mimics a firework spray. Jason Stephenson Unidentified crystal at the center of the horsetail nebula. Jason Stephenson Classic radiating horsetail inclusion with distinct core. Jason Stephenson Unidentified halo inclusions of varying sizes along chrysotile

needles. Halos similar to these are found in varying sizes within many demantoids. The eye of demantoid. Needly, cloudlike inclusions, known as silk, are visible under magnification, proof of the absence of heat treatment. Wimon Manorotkul Euhedral quartz crystals in a Japan-law twin-like formation, suggest syngenetic formation with the beryl host. Also notice the two-phase inclusions. From this Pala District pegmatite. Jason Stephenson Confetti of single-crystal inclusions, most likely quartz and feldspar, with some small two-phase inclusions. This material also produced some bubbles trapped within negative crystals. Jason Stephenson The two inclusion photomicrographs included below were featured in the sixth annual John Sinkankas Symposium , held in April The subject of the conference was garnet. Iridescent pattern seen in an andradite garnet from Hermosillo, Mexico. The pattern results from a superficial chemical disintegration of the outermost layers of the crystal. Wimon Manorotkul The following photomicrographs demonstrate telltale signs of lead-glass filling, which we discussed in our September Gem News. Blue and orange flash effect seen along structural fractures, a key identifying feature of glass-filled rubies. Wimon Manorotkul All wet: Lead glass filled rubies immersed, showing bubbles and color concentrations along fractures. Wimon Manorotkul Bubble trouble: Gas bubbles like that shown above, are indicative of lead-glass filling, and are easily seen with a microscope. Wimon Manorotkul The phenomenon illustrated in the following photomicrograph was discussed in our April Gem News. Jason Stephenson The varied inclusions displayed in the following photomicrograph, from a spinel from Tajikistan, are identified in our March Gem News. Big rosy red in bloom.

2: Gemstones Of The World | Download eBook PDF/EPUB

Internal World of Gemstones has 4 ratings and 0 reviews: Published by ABC Edition, pages, Hardcover.

3: Internal World of Gemstones : Eduard Gubelin :

It also examines the internal world of gemstones through microscopic studies which lend to new understanding about the age and construction of the stones. This book will be of interest to gemmologists, jewellers, goldsmiths, connoisseurs of precious stones, and mineralogists.

4: The Internal World of Gemstones â€” Pala international

The father of modern day inclusion studies is the late Dr. Eduard J. GÃ¼belin. His extensive research and cataloging of gems and their inclusions has established a standard by which gems are evaluated.

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The internal world of gemstones-a fascinating chapter on science of nature artistically interpreted The external beauty of jewels-brilliance and richness of colour-now proves to be "merely" a covering for a hidden world of beauty: for a secret magic world of colours and shapes Such questions as "Genuine or fake?" "What is that stone?"

7: Internal World of Gemstone by E. J. Gubelin (, Hardcover) | eBay

Additional sections describe the process of cutting gemstones and the techniques professional gemologists use to evaluate a stone's weight and optical properties. Detailed and comprehensive, this book is essential for anyone interested in the study of gems and precious stones.

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9: Internal World of Gemstones () by Eduard Gubelin

After more descriptive details are given in identification of gemstones, whether these are synthetic or simulants, through a comprehensive explanation of the materials found in these other gemstones, the fashioning, through shaping or polishing, of gemstones is explained.

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