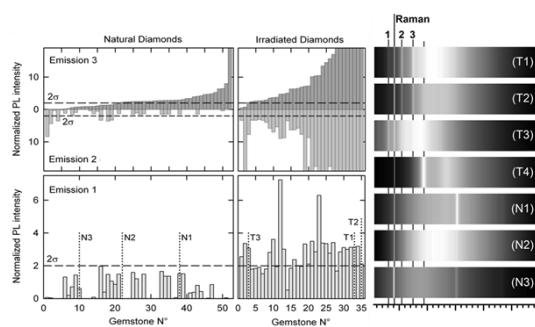


METHOD OF SPECTROSCOPIC ANALYSIS OF A DIAMOND AND APPARATUS THEREOF

SUMMARY

The invention provides a portable optical device and a related new method of analysis that can definitely discriminate diamonds from other gemstones and distinguish natural colored diamonds from colored diamonds obtained through artificial treatments. The invention is based on a simple spectroscopic and non-destructive analysis, based on the application of recent scientific findings concerning innovative spectroscopic indicators of artificial exposure to ionizing radiation and thermal treatments.

The method, supported by an unprecedented scientific protocol of certification, assures a reliable identification validated by a statistics of positive results of 100%.



KEY POINTS / ADVANTAGES

The method of analysis i) is based on clear-cut positive or negative spectroscopic observation, ii) does not need low temperature or complex optics such as confocal configurations, iii) can be applied to both loose gemstones and gemstones set in a jewel and iv) provides 100% positive results in an easy to use device. Therefore, the proposed method enables the design of simple and compact detection systems that give, for the first time, a tool for the spectroscopic identification of artificial treatments on colored variants of diamond.

MARKETING OPPORTUNITIES

The invention is based on a simple yes-no method. This feature makes it suitable not only for gemologists but also for jewellers, dealers, and unskilled users. In Italy there are twenty-two thousand companies working in jewellery industry and each of these is a potential user of this device. If the gem market on a global scale is considered, the catchment area of the potential users is orders of magnitude higher.

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Commercial Rights

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Industry Categories

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