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[https://www.100test.com/kao\\_ti2020/131/2021\\_2022\\_\\_E7\\_AC\\_94\\_E8\\_AF\\_91\\_E6\\_9D\\_90\\_E6\\_c95\\_131482.htm](https://www.100test.com/kao_ti2020/131/2021_2022__E7_AC_94_E8_AF_91_E6_9D_90_E6_c95_131482.htm) Los Alamos National Laboratory scientists are using a new technique to see fingerprints on surfaces that typically make them invisible. The method uses a technology called mini-X-ray fluorescence to detect chemical elements in fingerprints without altering them, said Christopher Worley, a scientist on the project. “The conventional methods are meant to bring out fingerprint patterns with regular light and they have to treat those with powder, which alters them,” Worley said. “With this you don't have to alter it or treat it at all. We can determine the elements in a fingerprint and get a pattern at the same time.” The technology focuses a tight beam of X-rays on surfaces with fingerprints and creates a computer picture out of those scans. The equipment costs about \$175,000. For big labs, the method could be a great way to bring out prints that can't be seen any other way, said Vahid Majidi, another lab scientist. “The technique fills a unique niche,” Majidi said. “These are prints that would otherwise be useless. If you have prints on a dark surface, for example, they really don't develop well using normal techniques. If you have prints from an adolescent or child, the chemicals in the fingertips are different and don't stick around long enough for traditional methods.” The new method might also be able to tell if the person that left them handled certain types of bomb-making materials, said George Havrilla, another lab scientist. “This is a

new approach to fingerprint visualization , ” Havrilla said. “ Were lifting prints , but instead of looking at the fingers natural oils and organic residues were looking at elemental features left behind. ”

The technology for scanning the prints is widely available. What ’ s new is the method the lab has created to see them which includes computer software and ways of manipulating the machinery ,

Worley said. 辅助翻译：美国洛斯阿拉莫斯国家实验室的科学家们采用了一种新技术，可以观察到原本很难在物体表面上看见的指纹。参与该科研项目的科学家克里斯托弗。沃尔利说，该方法使用了一种“微X射线束荧光技术”，可以探测到指纹携带的化学成分，却不会改变指纹的保存状态。

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