

photoacoustic image (Fig. 12). The noise in the photoacoustic image could be triggered by an unstable laser or by noise from the environmental condition around the device.

IV. CONCLUSION

This study confirmed that a photoacoustic imaging system based on a diode laser and a condenser microphone can generate a photoacoustic image of a dental anatomical structure characterized by enamel, dentin, and pulp. A diode laser combined with a condenser microphone can construct a photoacoustic system controlled by the LabView program and the Arduino IDE via a computer. Further study needs to be developed to investigate the application of photoacoustic imaging for other dental problems.

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