# Articulatory dynamics in ePGG, Pio, airflow and acoustic data for the Korean fricatives /s, s'/

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This paper is concerned with the speech mechanism and representation of the two-way phonation contrast in Korean fricatives /s, s'/ based on a new non-invasive technique called external lighting and sensing photoglottograph (ePGG) as well as Pio (intra-oral air pressure) above the glottis, airflow and acoustic data. The adduction-abduction movement of the glottis during the production of the fricatives was monitored with light emitting diodes (IR LEDs) placed on the neck exterior surface between the hyoid bone and the thyroid cartilage. Airflow rate was also measured by the principle of pressure-difference anemometry using a protection mask made of synthetic fibers and a differential pressure sensor. Pio was measured by inserting a pressure probe to the pharyngeal cavity via the nostril, and the distance between the end of the probe and the glottis was around 4-5 cm. A multichannel data recorder (Dash-8x, Astro-Med) was used for simultaneous recordings of ePGG, airflow and acoustic data and also for those of Pio, airflow and acoustic data. Four native speakers (2 male and 2 female) of Seoul Korean participated in the experiments.