

Exploring the Correlation Between Flow Speeds and Physical Properties of Food Matrices

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Dysphagia is a condition that creates difficulties in chewing and swallowing. If left unaddressed, dysphagia can lead to malnutrition, dehydration or even recurrent pneumonia. For fluid intake, it is possible to mitigate the effects of dysphagia by decreasing the rate of fluid flow. However, the methods currently used to measure fluid thickening are either difficult to use, destructive, not very reproducible, and require precise equipment. Furthermore, the methods are known to be poorly correlated with primary physical properties of food matrices and clinical impacts. Measurement of the flow tests of various food matrices and of different physical properties showed weak correlations. This highlights of our work demonstrated the need for the development of an easy, fast, non-destructive method of taking measurements using everyday objects, leading us to explore novel methods using novel approach such a machine vision.