# Artikler som ikke kan tilgås

[**Methods and importance of volume measurement in reconstructive and aesthetic breastsurgery**](http://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=78&SID=S1qUFb9eWq2klx54pww&page=1&doc=1)

By: Kunos Csaba; Gulyas Gusztav; Pesthy Pal; et al.

[ORVOSI HETILAP](javascript:;) 0.291(2015) Volume: 155   Issue: 11   Pages: 407-413   Published: MAR 2014

[Volume measurment of the breast allows for better surgical planning and implant selection in breastreconstructive and symmetrization procedures. The safety and accuracy of tumor removal, in accordance with oncoplastic principles, may be imporved by knowing the true breast-and breast tumor volume. The authors discuss the methods of volume measurement of the breast and describe the method based on magnetic resonance imaging digital volume measurment in details. The volume of the breast parenchyma and the tumor was determined by processing the diagnostic magnetic resonance scans, and the difference in the volume ofthe two breasts was measured. Surgery was planned and implant selection was made based on the measuredvolume details. The authors conclude that digital volume measurement proved to be a valuable tool inpreoperative planning of volume reducing mammaplasty, replacement of unknown size implants and in cases when breast asymmetry is treated.](javascript:;)

**Times Cited: 0***(from Web of Science Core Collection)*

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Abstract results: 1

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1. **A preliminary study of helmholtz resonant for measurement of watermelon volume**

Huarui, Chen (1); Huirong, Xu (1); Xiuqin, Rao (1); Kondo, Naoshi (2); Junqi, Bao (1)

Source: American Society of Agricultural and Biological Engineers Annual International Meeting 2013, ASABE 2013 ,

v 5, p 3956-3964, 2013, American Society of Agricultural and Biological Engineers Annual International Meeting 2013,

ASABE 2013 ; ISBN-13: 9781627486651; Conference: American Society of Agricultural and Biological Engineers

Annual International Meeting 2013, July 21, 2013 - July 24, 2013; Publisher: American Society of Agricultural and

Biological Engineers

Author affiliation: (1) Zhejiang University, Hangzhou,Zhejiang, China (2) Kyoto University, Kyoto, Japan

Abstract: Fruit volume and density are vital features for fruit quality. In a Heimholtz resonant system the resonant

frequency was found having a close relationship with the effective volume of the resonator. The objective of this

study was to develop a watermelon volume measurement system using the Helmholtz resonant principle. A device

consisting of a signal generator, an amplifier, a loudspeaker, a resonator, a microphone, a data acquisition module and

a data analysis software was designed and tested. To evaluate the performance of the system, 65 watermelons from

native orchard were used. Single-factor tests and orthogonal tests showed that the optimal factor of the watermelon

volume measurement system was 6 s of data-acquisition time, 280 mm of distance between microphone to resonator

port opening and 100 mm of height between loudspeaker to resonator port opening. The volumes of watermelons

were estimated using this system based on the model formula between the resonant frequency and the volume of

the resonator chamber with watermelon inside, and the actual volumes of watermelons were measured by waterfilling

method sequentially. The determination coefficients R2 for the calibration sets (47 watermelons) and validation

sets (18 watermelons) were 0.9655 and 0.9568, respectively. It was confirmed that the Helmholtz resonance showed

great potential in measuring the volume of watermelon and the following study could reach to density prediction and

watermelon internal quality evaluation. (16 refs)

Main heading: Quality control

Controlled terms: Agriculture - Data acquisition - Loudspeakers - Microphones - Natural frequencies - Resonators -

Software testing - Volume measurement

Uncontrolled terms: Data acquisition modules - Data analysis softwares - Determination coefficients - Helmholtz -

Non-destructive measurement - Preliminary studies - Volume - Watermelon

Classification Code: 711.1 Electromagnetic Waves in Different MediaElectromagnetic Waves in Different

Media - 723.2 Data Processing and Image ProcessingData Processing and Image Processing - 723.5 Computer

ApplicationsComputer Applications - 752.1 Acoustic DevicesAcoustic Devices - 821 Agricultural Equipment and

Methods; Vegetation and Pest ControlAgricultural Equipment and Methods; Vegetation and Pest Control - 913.3

Quality Assurance and ControlQuality Assurance and Control - 943.2 Mechanical Variables MeasurementsMechanical

Variables Measurements

Database: Compendex

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**ACOUSTIC BODY VOLUMETER FOR MEASURING WHOLE BODY VOLUME IN HUMANS.**

[Deskins, W.Gregory](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&origin=results&category=authorsearch&searchtype=Quick&searchWord1=%7BDeskins%2C+W.Gregory%7D&section1=AU&database=1&yearselect=yearrange&sort=yr)1

**Source:** *American Society of Mechanical Engineers (Paper)*, 1986;  **ISSN:** 04021215; **Conference:** Selection de Communications au Symposium AIRH: L'Approche Stochastique des Ecoulements Souterrains.; **Sponsor:** Assoc Int de Recherches Hydrauliques, Comite des Milieux Poreux,; Ecole des Mines de Paris, Paris, Fr; **Publisher:** ASME

**Author affiliation:**

1 Hoover Keith & Bruce Inc,, Houston, TX, USA, Hoover Keith & Bruce Inc, Houston, TX, USA

**Abstract:**

The objective of this research is to develop a non-invasive, reliable, safe, and rapid system for **measuring** body **volume** in humans. The technique is based on the principle of the **Helmholtz** resonator. The device **measures** the resonance frequency of a resonating cavity before and after the subject is placed inside the cavity. The **measured** change in resonance frequency is mathematically related to the **volume** of the subject. The application of the Acoustic Body Volumeter has been extended from **measurements** in an anechoic chamber of **volumes** the size of infants to larger **volumes** in non-anechoic spaces. Two systems have been constructed, one for **measuring** subjects the size of children (5-25 liters) and another for subjects the size of adults (25-125 liters). The cavity **volumes** are 100 and 1000 liters, respectively. Several methods of determining system resonance frequency were tested. In addition, effects of various parameters were investigated, including system tuning and damping, background noise, temperature uniformity, and the subject location, shape, and movement.(11 refs)

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**Main heading:** [ACOUSTIC EQUIPMENT](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BACOUSTIC+EQUIPMENT%7D&section1=MH&database=1&yearselect=%20yearrange%20&sort=yr)

**Controlled terms:** [BIOMEDICAL EQUIPMENT](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BBIOMEDICAL+EQUIPMENT%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [ELECTRIC **MEASUREMENTS** - Frequency](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BELECTRIC+MEASUREMENTS+-+Frequency%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [HUMAN ENGINEERING](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BHUMAN+ENGINEERING%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [MECHANICAL VARIABLES **MEASUREMENT** - **Volumes**](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BMECHANICAL+VARIABLES+MEASUREMENT+-+Volumes%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [VOLUMETRIC ANALYSIS - Human Factors](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BVOLUMETRIC+ANALYSIS+-+Human+Factors%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)

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**Uncontrolled terms:** [ACOUSTIC BODY VOLUMETER](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BACOUSTIC+BODY+VOLUMETER%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)  -  [RESONANCE FREQUENCY](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BRESONANCE+FREQUENCY%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)  -  [WHOLE BODY **VOLUME**](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BWHOLE+BODY+VOLUME%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)

**Classification Code:** [461](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B461%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Bioengineering and Biology -  [462](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B462%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Biomedical Equipment -  [752](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B752%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Sound Devices, Equipment and Systems -  [801](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B801%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Chemistry -  [942](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B942%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Electric and Electronic Measuring Instruments -  [943](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B943%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Mechanical and Miscellaneous Measuring Instruments

**Database:** Compendex

**Fruit density as an indicator for watermelon hollow detection using helmholtz resonance**

[Xu, H.](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&origin=results&category=authorsearch&searchtype=Quick&searchWord1=%7BXu%2C+H.%7D&section1=AU&database=1&yearselect=yearrange&sort=yr)1 [](mailto:hrxu@zju.edu.cn); [Chen, H.](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&origin=results&category=authorsearch&searchtype=Quick&searchWord1=%7BChen%2C+H.%7D&section1=AU&database=1&yearselect=yearrange&sort=yr)1; [Ying, Y.](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&origin=results&category=authorsearch&searchtype=Quick&searchWord1=%7BYing%2C+Y.%7D&section1=AU&database=1&yearselect=yearrange&sort=yr)1; [Kondo, N.](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&origin=results&category=authorsearch&searchtype=Quick&searchWord1=%7BKondo%2C+N.%7D&section1=AU&database=1&yearselect=yearrange&sort=yr)2

**Source:** *Transactions of the ASABE*, v 57, n 4, p 1163-1172, September 1, 2014;  **ISSN:** 21510032;  **DOI:** 10.13031/trans.57.10560; **Publisher:** American Society of Agricultural and Biological Engineers

**Author affiliations:**

1 College of Biosystems Engineering and Food Science, Zhejiang University, 866 Yuhangtang Road, Hangzhou, Zhejiang, China

2 Division of Environment Science and Technology, Kyoto University, Kyoto, Japan

**Abstract:**

The density of watermelon was found to be related to the internal hollow of watermelon and can be used for nondestructive quality evaluation. Obtaining density directly has long been a problem, and researchers have used a variety of methods to determine the **volume** and then deduce the density In a **Helmholtz** resonance system, the resonant frequency has a close relationship with the effective **volume** of the resonator. The objective of this study was to develop a watermelon **volume** measurement system using the principle of **Helmholtz** resonance and then determine the density to classify normal and hollow watermelons. Based on single-factor and orthogonal tests, the optimal parameters of the measurement system were revealed to be 10 s testing time, 220 mm distance from the microphone to the resonator port opening, and 120 mm height of the loudspeaker above the port opening. A total of 176 watermelons, separated into a calibration set (119) and a validation set (57), were measured using this system. The resonant frequency and actual **volume** measured by water immersion were modeled with linear, quadratic, and negative quadratic regression models, and then binary logistic and support vector machine (SVM) methods were used to identify watermelons with or without hollows using the density values estimated by the original theoretical, linear, quadratic and negative quadratic models as input variables. The binary logistic method based on the density values estimated by the negative quadratic model showed the best performance in predicting hollow watermelons, with an overall correct percentage of 82.5%. It was confirmed that **Helmholtz** resonance showed a great potential for measuring the **volume** and internal quality of watermelon. © 2014 American Society of Agricultural and Biological Engineers.(32 refs)

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**Main heading:** [Natural frequencies](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BNatural+frequencies%7D&section1=MH&database=1&yearselect=%20yearrange%20&sort=yr)

**Controlled terms:** [Density (specific gravity)](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BDensity++specific+gravity%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [Regression analysis](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BRegression+analysis%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [Resonators](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BResonators%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [Support vector machines](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BSupport+vector+machines%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)  -  [**Volume** measurement](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BVolume+measurement%7D&section1=CV&database=1&yearselect=%20yearrange%20&sort=yr)

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**Uncontrolled terms:** [**Helmholtz** resonance](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BHelmholtz+resonance%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)  -  [Internal hollow](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BInternal+hollow%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)  -  [Nondestructive detection](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BNondestructive+detection%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)  -  [**Volume**](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BVolume%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)  -  [Watermelon](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7BWatermelon%7D&section1=FL&database=1&yearselect=%20yearrange%20&sort=yr)

**Classification Code:** [711.1](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B711.1%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Electromagnetic Waves in Different Media -  [714](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B714%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Electronic Components and Tubes -  [723](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B723%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Computer Software, Data Handling and Applications -  [922.2](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B922.2%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Mathematical Statistics -  [931.2](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B931.2%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Physical Properties of Gases, Liquids and Solids -  [943.2](https://www-engineeringvillage-com.ez.statsbiblioteket.dk:12048/search/submit.url?CID=quickSearchCitationFormat&searchtype=Quick&searchWord1=%7B943.2%7D&section1=CL&database=1&yearselect=%20yearrange%20&sort=yr) Mechanical Variables Measurements

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