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# ULTRASONICS SYMPOSIUM

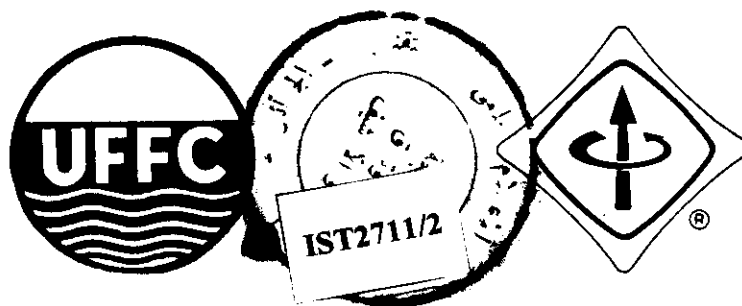
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VOL. 2  
OF 2



92CH3118-7

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## PROCEEDINGS

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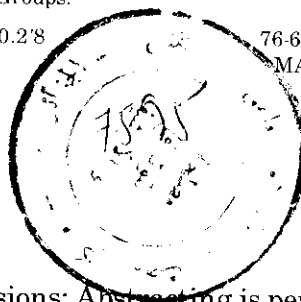
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As it did last year, the level of participation in this year's Proceedings exceeds 95% of all the papers presented at the 1992 Ultrasonics Symposium.

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## 1992 IEEE Ultrasonics Symposium • Condensed Program

<b>MONDAY, OCT. 19</b>	Registration 6:00 p.m. – 9:00 p.m.			
<b>TUESDAY, OCT. 20</b>	Registration 7:30 a.m. – 1:30 p.m., 5:30 p.m. – 9:00 p.m. <b>Short Courses:</b> Course 1: Piezoelectric Materials for Ultrasonic Transducers: Piezocomposites and Beyond ( <i>Plaza Meeting Room</i> ) Course 2: Basic Ultrasound Principles and Their Connection to Medical Ultrasound ( <i>Plaza Meeting Room</i> ) Course 3: Medical Imaging ( <i>Plaza Meeting Room</i> ) Course 4: Bulk Wave Resonators and Transducers ( <i>Forum Meeting Room</i> ) Course 5: High Stability SAW Oscillators: Design and Performance ( <i>Forum Meeting Room</i> ) Course 6: Fundamentals of Ultrasonic Sensors ( <i>Forum Meeting Room</i> )			
<b>WEDNESDAY, OCT. 21</b>	Registration 7:30 a.m. – 5:00 p.m. Plenary Session — Located in Leo Rich Theater in Tucson Convention Center Refreshments — Exhibits Area			
	<b>EMPIRE EAST</b>	<b>STARLIGHT ROOM</b>	<b>FORUM MEETING ROOM</b>	<b>EMPIRE WEST</b>
10:30 a.m. – 12:00 noon	<b>A</b> Therapeutic Ultrasound	<b>B</b> Acoustic Microscopy I: Techniques	<b>C</b> Geophysical Acoustics	<b>D</b> Analysis & Compensation of SAW Filters
12:00 noon – 1:30 p.m.	Lunch			
1:30 p.m. – 3:00 p.m.	<b>E</b> Hyperthermia	<b>F</b> Acoustic Microscopy II: Applications	<b>G</b> Ultrasonic Motors	<b>H</b> SAW Resonators
3:00 p.m. – 3:30 p.m.	Refreshments — Exhibits Area			
3:30 p.m. – 5:30 p.m.	<b>Posters (PA-PL): Empire Center and Lobby Area</b> <b>PA</b> Image Processing <b>PB</b> Transducer Materials & Technology <b>PC</b> Medical Ultrasound Topics <b>PD</b> NDE & Industrial Ultrasonics <b>PE</b> Sensors & Sonic Processing <b>PF</b> Ultrasonic Signal Processing <b>PG</b> Physical Acoustics I <b>PH</b> Photoacoustics & Acousto-Optics <b>PI</b> Physical Acoustics II <b>PJ</b> SAW Filters <b>PK</b> SAW Resonators & Oscillators and HACT Devices <b>PL</b> SAW Materials & Propagation			
6:00 p.m. – 9:00 p.m.	Social Gathering ( <i>Starlight Room</i> )			
<b>THURSDAY, OCT. 22</b>	Registration 7:30 a.m. - 5:00 p.m.			
	<b>EMPIRE EAST</b>	<b>STARLIGHT ROOM</b>	<b>FORUM MEETING ROOM</b>	<b>EMPIRE WEST</b>
8:30 a.m. – 10:00 a.m.	<b>I</b> Clinical Imaging	<b>J</b> Liquids & Biosensors	<b>K</b> Microscopic Physical Acoustics	<b>L</b> Low Loss SAW Filters
10:00 a.m. – 10:30 a.m.	Refreshments — Exhibits Area			
10:30 a.m. – 12:00 noon	<b>M</b> Contrast Agents & Bubbles	<b>N</b> Ultrasonic Image Processing	<b>O</b> Magnetostatic Waves & Acousto-Optics	<b>P</b> SAW & Leaky SAW Propagation
12:00 noon – 1:30 p.m.	Lunch			
1:30 p.m. – 3:00 p.m.	<b>Q</b> Blood Flow	<b>R</b> Intelligent Processing of Ultrasonic Signals	<b>S</b> Lamb Waves	<b>T</b> SAW Resonator Filters
3:00 p.m. – 3:30 p.m.	Refreshments — Exhibits Area			
3:30 p.m. – 5:00 p.m.	<b>U</b> Three Dimensional Imaging	<b>V</b> SAW Sensors	<b>W</b> Bulk Resonators & Transducers	<b>X</b> SAW Packaging & Filters
5:30 p.m. – 10:00 p.m.	Experience the Old West — Old Tucson Studio			
<b>FRIDAY, OCT. 23</b>	Registration 7:30 a.m. - 1:30 p.m.			
	<b>EMPIRE EAST</b>	<b>STARLIGHT ROOM</b>	<b>FORUM MEETING ROOM</b>	<b>EMPIRE WEST</b>
8:30 a.m. – 10:00 a.m.	<b>Y</b> Transducer Materials	<b>Z</b> Laser-Based Ultrasonics	<b>AA</b> Metals, Superconductors, & Polymers	<b>BB</b> SAW System Applications
10:00 a.m. – 10:30 a.m.	Refreshments — Exhibits Area			
10:30 a.m. – 12:00 noon	<b>CC</b> Transducers & Arrays I	<b>DD</b> Characterization of Defects	<b>EE</b> Acousto-Optic Systems and Devices	<b>FF</b> Ultrasonic Properties of Tissues
12:00 noon – 1:30 p.m.	Lunch			
1:30 p.m. – 3:00 p.m.	<b>GG</b> Transducers & Arrays II	<b>HH</b> Smart Materials and Process Monitoring & Control	<b>II</b> NDE of Adhesive Bonds	<b>JJ</b> Tissue Motion
3:00 p.m. – 3:30 p.m.	Refreshments — Exhibits Area			
3:00 p.m. – 5:00 p.m.	<b>KK</b> Transducers: Diffraction & Aberration	<b>LL</b> Ultrasonic Characterization of Material Properties	<b>MM</b> Thin Film Properties & SAW Applications	<b>NN</b> Tissue Characterization Measurement Methodology
	<b>EMPIRE EAST</b>	<b>STARLIGHT ROOM</b>	<b>FORUM MEETING ROOM</b>	<b>EMPIRE WEST</b>

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