

Amnon Yariv

California Institute of Technology

Pasadena, California

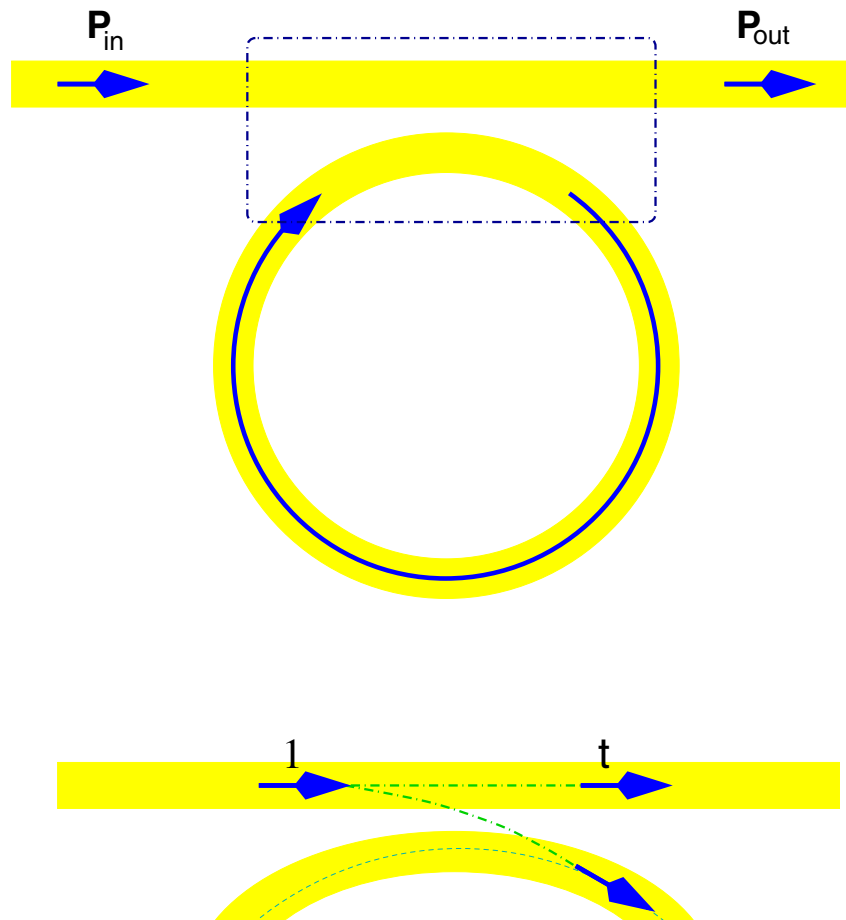
DARPA/MTO Workshop

**Voltage Controlled Micro
Cavity-waveguide Coupling for
Switching, Routing, and Modulation
of Optical Waves**

APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

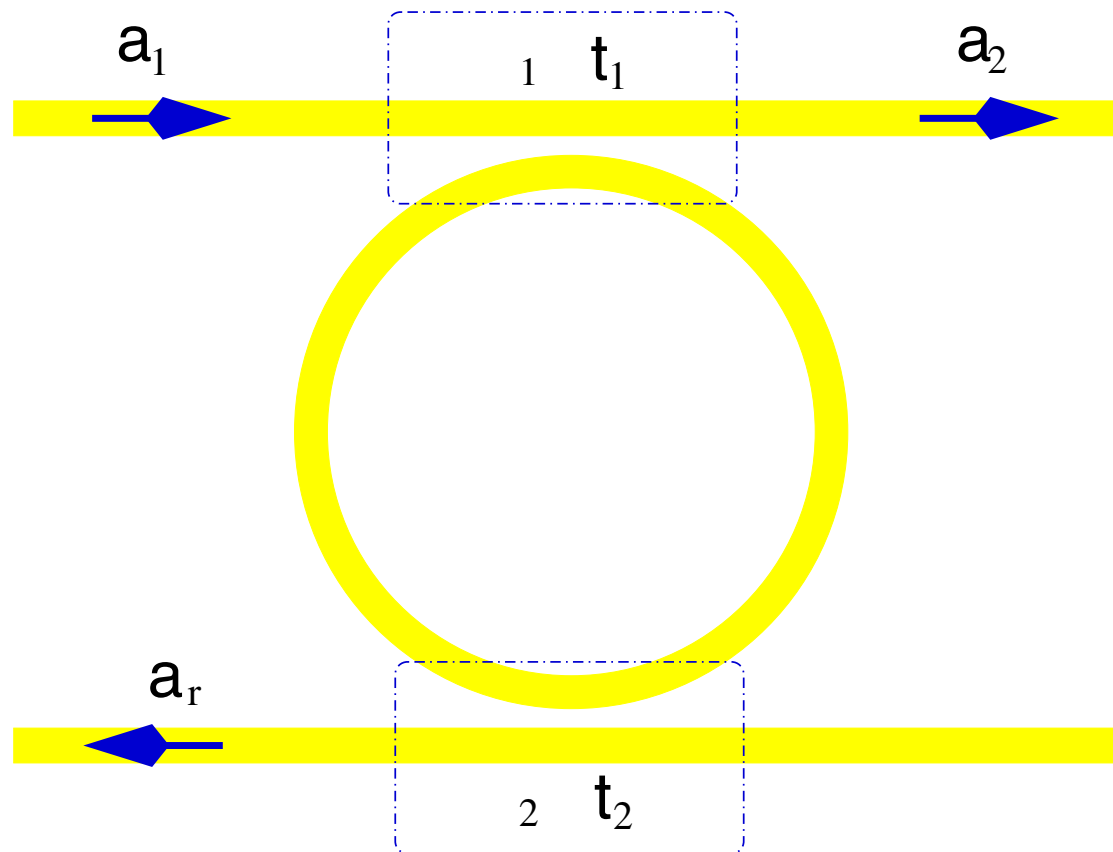
REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 18 APR 2000		2. REPORT TYPE N/A		3. DATES COVERED -	
4. TITLE AND SUBTITLE Voltage Controlled Micro Cavity-Waveguide Coupling for Switching, Routing, and Modulation of Optical Waves				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Californica Institute of Technology Pasadena, CA				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES DARPA/MTO, WDM for Military Platforms Workshop held in McLean, VA on April 18-19, 2000, The original document contains color images.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 10	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



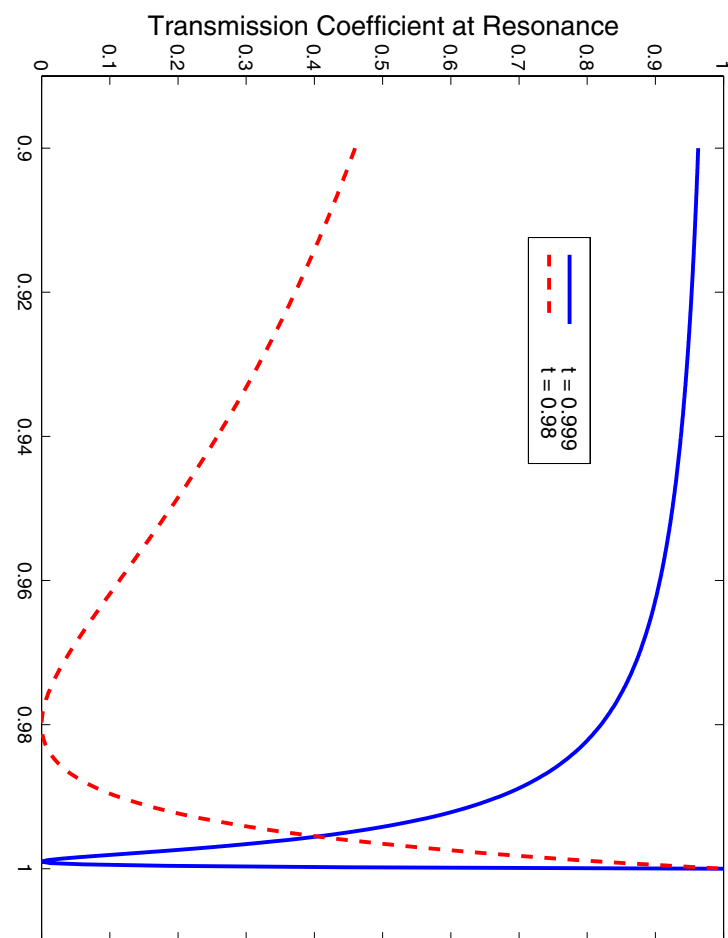
APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION



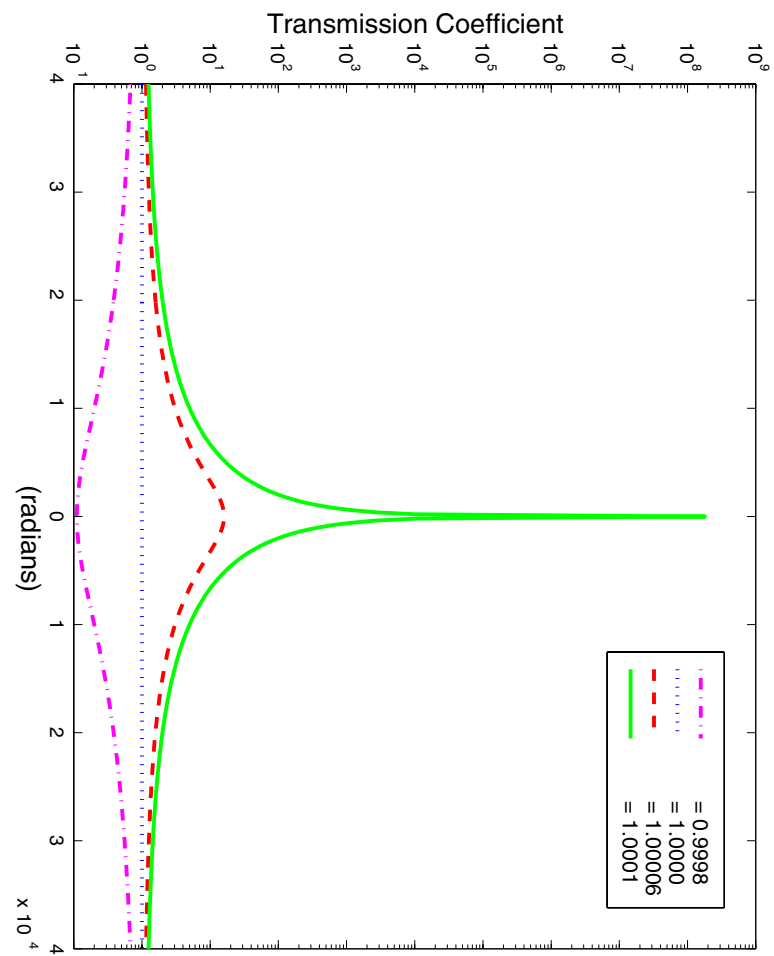
APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION



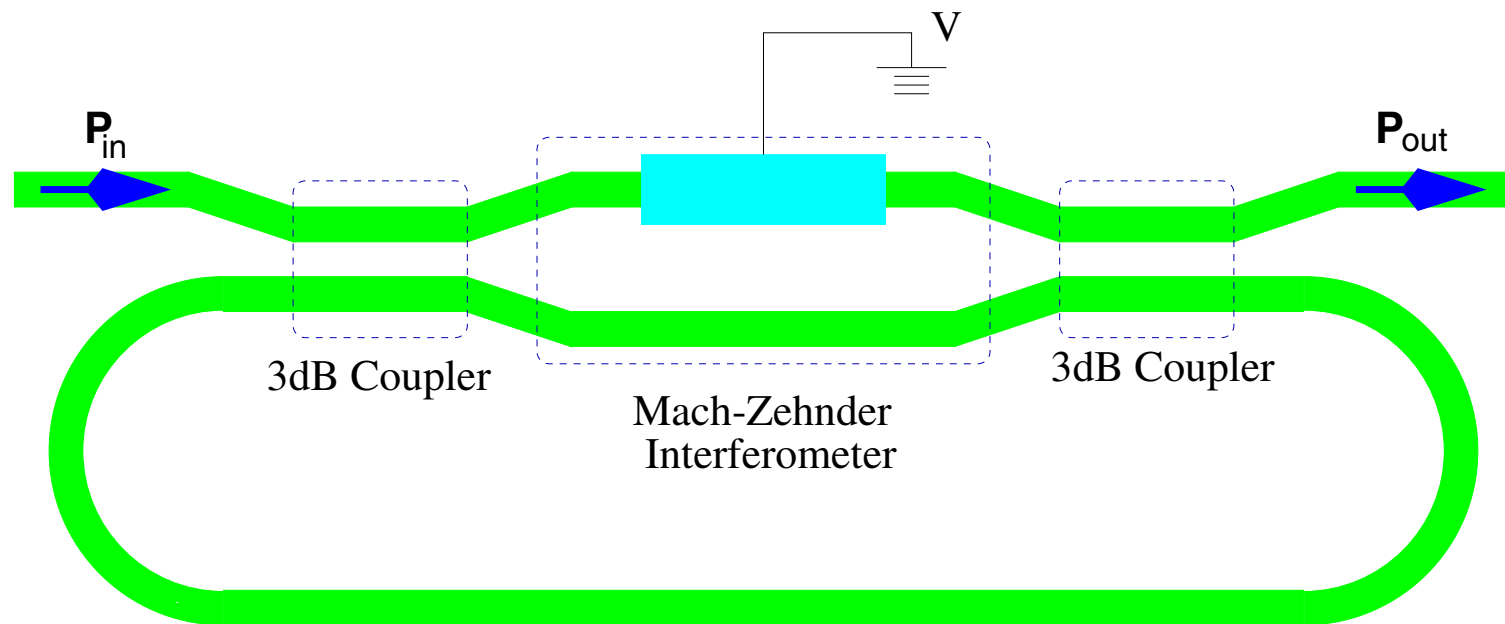
APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION



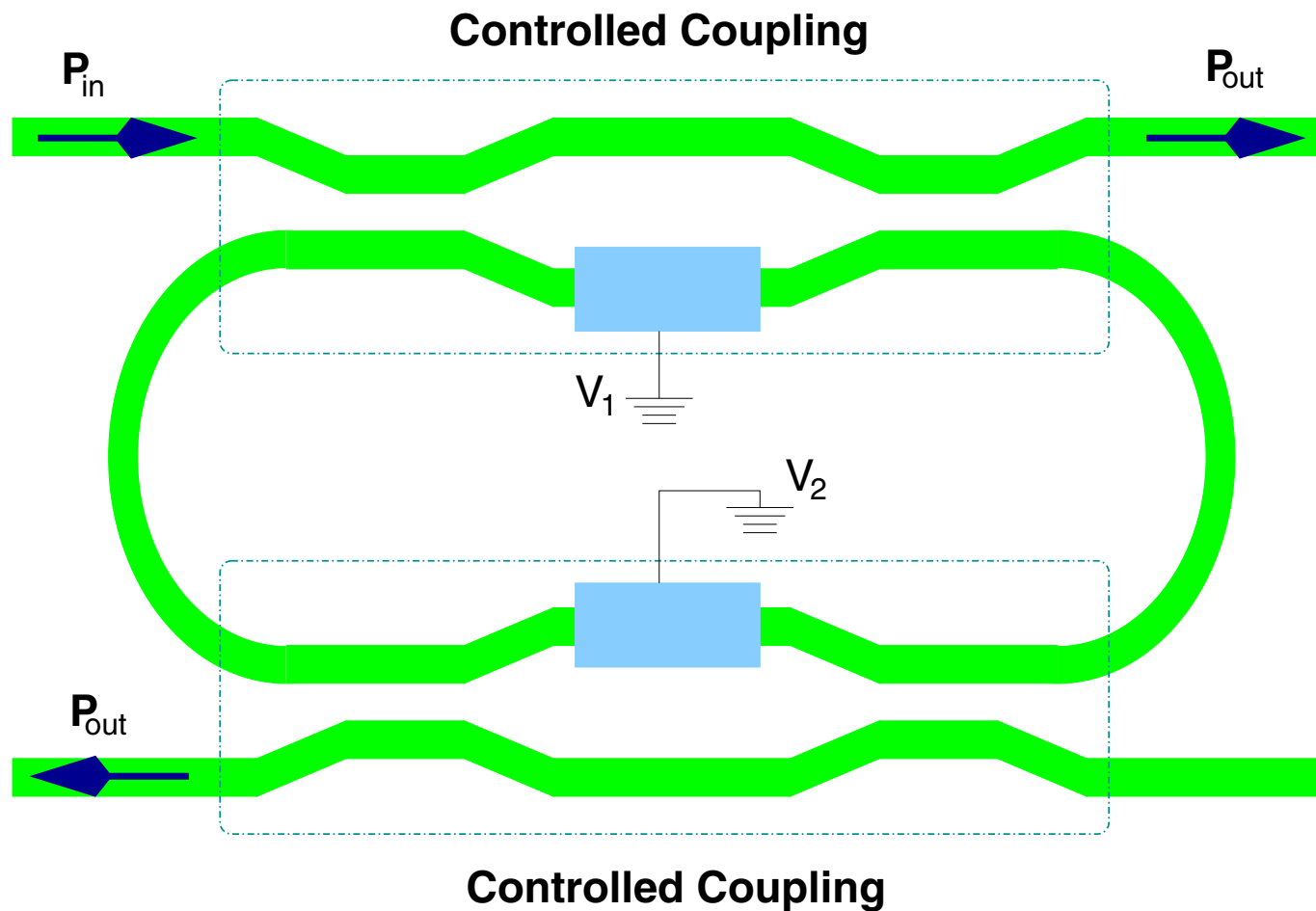
APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION



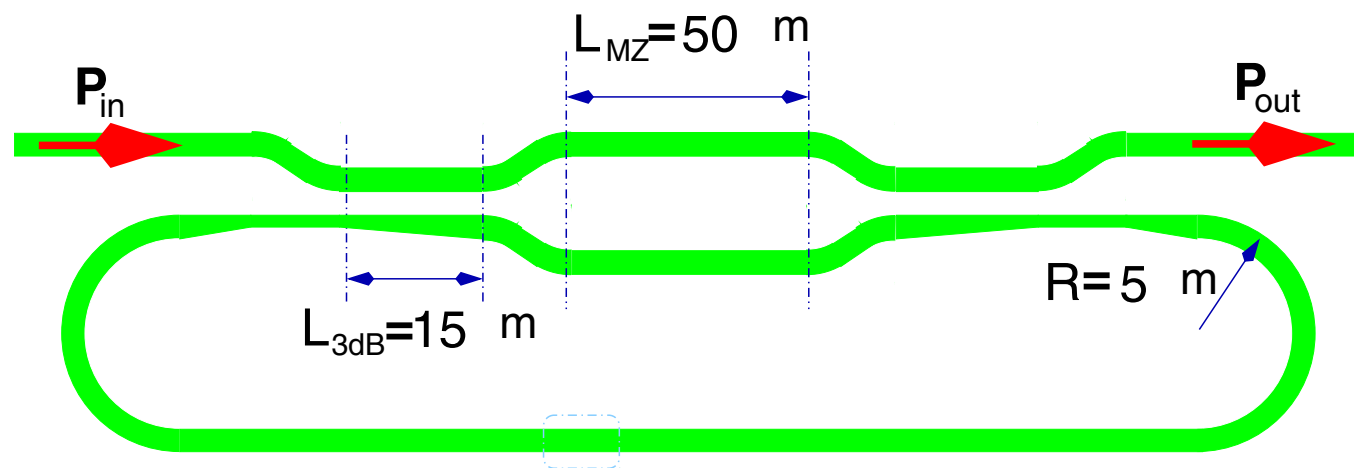
APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION



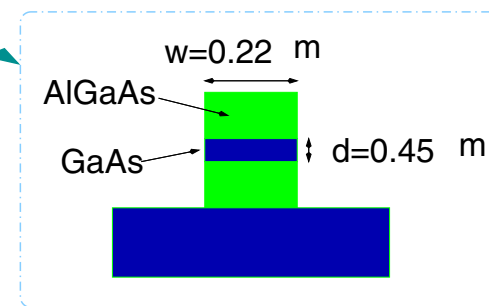
APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE INDORSEMENT OF FACTUAL ACCUARCY OR OPINION



SemiConductor Ring Resonator

THz



APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION

Highly efficient optical power transfer to whispering-gallery modes by use of a symmetrical dual-coupling configuration

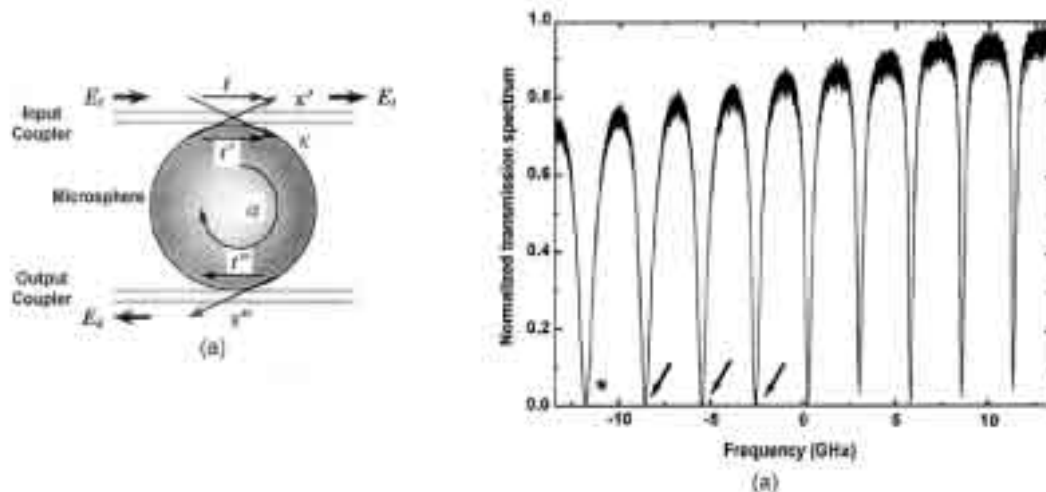
Ming Cai and Kerry Vahala

Department of Applied Physics, California Institute of Technology, Pasadena, California 91125

Received September 28, 1999

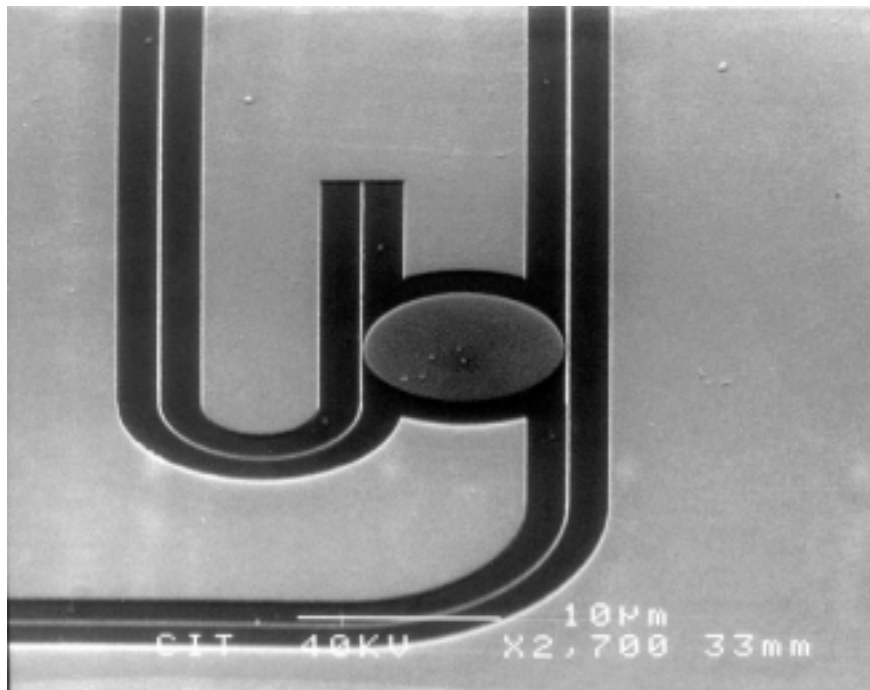
We report that greater than 99.8% optical power transfer to whispering-gallery modes was achieved in fused-silica microspheres by use of a dual-tapered-fiber coupling method. The intrinsic cavity loss and the taper-to-sphere coupling coefficient are inferred from the experimental data. It is shown that the low intrinsic cavity loss and the symmetrical dual-coupling structure are crucial for obtaining the high coupling efficiency. © 2000 Optical Society of America

OCIS codes: 230.5750, 230.3990, 060.1810, 330.1150.



APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION



APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

REVIEW OF THIS MATERIAL DOES NOT IMPLY DEPARTMENT OF
DEFENSE ENDORSEMENT OF FACTUAL ACCURACY OR OPINION