Fast Preview

Autonomous Mission Design and Data Fusion: Laying the groundwork for Decadal Mission swath altimetry and ocean vector winds. Bruce M Howe ¹ (+18089560466; bhowe@hawaii.edu) Payman Arabshahi ² (+12062216990; payman@apl.washington.cdu) Steven Businger ¹ (+18089562569; businger@hawaii.edu) Yi Chao ³ (+18183548168; Yi.Chao@jpl.nasa.gov) Steve Chien ³ (+1818395320; steve.chien@jpl.nasa.gov) Andrew Gray ² (+16267576903; aagray@u.washington.cdu) ¹ School of Ocean and Earth Science and Technology, University of Hawaii, 1680 East-West Road, Honolulu, H196822, United States ¹ Applied Physics Laboratory, University of Washington, 1013 NE 40th Street, Seattel, WA 98105, United States ¹ Are Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA 91109, United States In the coming decade, the autonomous coordinated utilization of space, atmospherici surface, and ocean asets, sensor webs, and data will assume more importance, as systems become more complex and tightly integrated, and as the need to know our environment with ever greater accuracy and precision becomes more acute. We have hegun to address this issue with a prototype system, the goal is to develop the architecture and implementation of the necessary software modules (e.g., automated data fusion/assimilation, and automated planning technology) to achieve adaptive in-situs sampling through feedback from space-based-assets (in this case via the SWOT simulator) thereby contributing to the orbit design during the first, experimental phase (-6-9 months) of the SWOT mission. This work is one step in the process of infusing technology into the development pipeline.	Note: This is not exactly what the published abstract will look like	
 Reference Number: 15391 Bruce M Howe ¹ (+18089560466; bhowe @hawaii.edu) Payman Arabshahi ² (+12062216990; payman @apl.washington.edu) Steven Businger ¹ (+18089562569; businger@hawaii.edu) Yi Chao ³ (+18183548168; Yi.Chao@jpl.nasa.gov) Andrew Gray ² (+16267576903; aagray@u.washington.edu) ¹school of Ocean and Earth Science and Technology, University of Hawaii 1680 Fast-West Road, Honolulu, HI 96822, United States ¹Aphied Physics Laboratory, University of Washington, 1013 NE 40th Street, Seattle, WA 98105, United States ¹Ate Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA 91109, United Student rate: Not Applicable Willing to chair a session: Meeting Section: IN the coming decade, the autonomous coordinated utilization of space, atmospheric, systems become more complex and tightly integrated, and as the need to know our environment with ever greater accuracy and precision becomes more acute. We have begun to address this issue with a prototype virtual ocean observatory that includes present and future NASA satellite missions (Jason-2 and QuikSCAT; and SWOT protenses of infusing theoph feedback from space-based-assets (in this case via the SWOT simulator) thereby contributing to the orbit design during the first. experimental phase (-6-9 months) of the SWOT mission. This work is one step in the SWOT simulator) thereby contributing to the odvelop pti architecture and implementation of the development pipeline. Material presented: 0% Contributed Poster presentation requested: Assign by Program Comm Scheduling reouest: 	Autonomous Mission Design and Data Fusion: Laying the groundwork for Decadal Mission swath altimetry and ocean	Meeting: 2008 Fall Meeting
Bruce M Howe1 (+18089560466; bhowe@hawaii.edu)Payman Arabshahi2 (+12062216990;payman@apl.washington.edu)Steven BusingerSteven Businger1 (+18089562569; businger@hawaii.edu)Yi Chao3 (+18183548168; Yi.Chao@jpl.nasa.gov)Steve Chien3 (+18183935320; steve.chien@jpl.nasa.gov)Andrew Gray2 (+16267576903; aagray@u.washington.edu) ¹ school of Ocean and Earth Science and Technology, University of Hawaii, 1680 ² Applied Physics Laboratory, University of Washington, 1013 NE 40th Street,Seatt-West Road, Honolulu, HI 96822, United States ³ Apt Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA 91109, UnitedStatesIn the coming decade, the autonomous coordinated utilization of space, atmospheric,In the coming decade, the autonomous coordinated utilization of space, atmospheric,Systems become more complex and tightly integrated, and as the need to know ourmivinsumpting through Fedback from space-based-assets (in this case via theSynther underwater gliderback inters). In our prototype system, the goal is to develop theSynthitmetry and XOVWM [ocean vector winds], respectively); and in-situ sampting through Fedback from space-based-assets (in this case via theSWOT simulator) thereby contributing to the orbit design during the first,Synterime thal plase (-6-0 months) of the development pipeline.Swot sing technology into the development pipeline.Butter Terms:Addition requested:Assign by Program CommScheduling reouest:	vector winds.	Reference Number:15391
	vector winds. Bruce M Howe ¹ (+18089560466; bhowe@hawaii.edu) Payman Arabshahi ² (+12062216990; payman@apl.washington.edu) Steven Businger ¹ (+18089562569; businger@hawaii.edu) Yi Chao ³ (+18183548168; Yi.Chao@jpl.nasa.gov) Steve Chien ³ (+18183935320; steve.chien@jpl.nasa.gov) Andrew Gray ² (+16267576903; aagray@u.washington.edu) ¹ School of Ocean and Earth Science and Technology, University of Hawaii, 1680 East-West Road, Honolulu, HI 96822, United States ² Applied Physics Laboratory, University of Washington, 1013 NE 40th Street, Scattle, WA 98105, United States ³ Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA 91109, United States In the coming decade, the autonomous coordinated utilization of space, atmospheric, surface, and ocean assets, sensor webs, and data will assume more importance, as systems become more complex and tightly integrated, and as the need to know our environment with ever greater accuracy and precision becomes more acute. We have begun to address this issue with a prototype virtual ocean observatory that includes present and future NASA satellite missions (Jason-2 and QuikSCAT; and SWOT [swath altimetry] and XOVWM [ocean vector winds], respectively); atmosphere and ocean models (WRF/LAPS and ROMS, respectively); and in-situ sensors and platforms (underwater gliders). In our prototype system, the goal is to develop the architecture and implementation of the necessary software modules (e.g., automated data fusion/assimilation, and automated planning technology) to achieve adaptive in-situ sampling through feedback from space-based-assets (in this case via the SWOT simulator) thereby contributing to the orbit design during the first, experimental phase (~6-9 months) of the SWOT mission. This work is one step in the process of infusing technology into the development pipeline.	Reference Number:15391 Membership Number: Bruce M Howe AGU - ho921667 Contact Information: Bruce M Howe School of Ocean and Earth Science and Technology, University of Hawaii 1680 East-West Road Honolulu, HI 96822, United States ph : +18089560466 fax : +18089563498 e-mail : bhowe@hawaii.edu Student rate: Not Applicable Willing to chair a session: IN - Earth and Space Science Informatics Special Session: IN13 - Information Technology Infusion - Successful Strategies Index Terms: 4262,4275 Theme: Material presented: 0% Contributed Poster presentation requested: Assign by Program Comm
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