

NOVA MEASURING INSTRUMENTS LTD  
Form 6-K  
March 14, 2007

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UNITED STATES  
**SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 6-K**

Report of Foreign Private Issuer  
Pursuant to Rule 13a-16 or 15d-16  
of the Securities Exchange Act of 1934

Date of Report: March 14, 2007  
Commission File No.: 000-30688

**NOVA MEASURING INSTRUMENTS LTD.**

**Building 22 Weitzmann Science Park, Rehovoth  
P.O.B 266  
Israel**

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F:

Form 20-F  Form 40-F

Indicate by check mark whether the registrant is submitting this Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_\_

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to 12g3-2(b) under the Securities Exchange Act of 1934:

Yes  No

If  Yes is marked, indicate below the file number assigned to the registrant in connection with 12g3-2(b):

N/A.

Attached hereto and incorporated by way of reference herein is the Registrant's press release entitled "Nova Introduces Enhanced Version of its Scatterometry Modeling and Application Development Tool".

This report on Form 6-K is hereby incorporated by reference into Nova Measuring Instruments Ltd.'s registration statements on Form S-8, filed with the Securities and Exchange Commission on the following dates: September 13, 2000 (File No. 333-12546); March 5, 2002 (File No. 333-83734); December 24, 2002 (File No. 333-102193, as amended by Amendment No. 1, filed on January 5, 2006); March 24, 2003 (File No. 333-103981); May 17, 2004 (three files, File Nos. 333-115554, 333-115555, and 333-115556, as amended by Amendment No. 1, filed on January 5, 2006); March 7, 2005 (File No. 333-123158); December 29, 2005 (File No. 333-130745); and September 21, 2006 (File No. 333-137491).

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**Signatures**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

NOVA MEASURING INSTRUMENTS LTD.  
(the "Registrant")

By: */s/ Dror David*

Dror David  
Chief Financial Officer

Date: March 14, 2007

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## **Nova Introduces Enhanced Version of its Scatterometry Modeling and Application Development Tool**

### ***The Enhanced NovaMARS™ delivers Process Oriented Modeling Flexibility (POMF) for 2D and 3D applications at higher speed and computer power***

Rehovot, March 14, 2007 Nova Measuring Instruments Ltd. (Nasdaq: NVMI), provider of leading edge stand-alone metrology and the market leader of integrated metrology solutions to the semiconductor process control market, today announced the release of a new version of its NovaMARS modeling software tool. The NovaMARS provides an automatic and easy to use solution for advanced structure modeling and application development for the 45nm technology node and beyond. The new version of NovaMARS introduces the concept of Process Oriented Modeling Flexibility (POMF). With POMF, process engineers can harness the power and flexibility of the tool to develop their own scatterometry applications by themselves thus keeping the details of their process within the fab.

NovaMARS was first introduced to the market in July 2006, and has already established 2D and 3D measurement capabilities at various customer sites. The enhanced version of NovaMARS significantly improves application development speed by employing multi CPU high power processing, which makes library creation calculations up to twenty times faster. The high level of automation enables easier and faster application development and eliminates discrepancies between different developers, enabling the best solution, independent of user proficiency.

Commenting on this latest release, Avron Ger, Vice President of the Thin Film Business Unit at Nova said: "Nine months ago we introduced the first version of NovaMARS in response to our customers' need to have an easy to use, advanced modeling software tool for their scatterometry applications. A good model is the key to good measurement, making the combination of NovaMARS with the NovaScan 3090 and NovaScan 3090Next the best overall metrology solution. Recognizing that if you can't model it you can't measure it, our users have given us extremely positive feedback on NovaMARS, and we are happy to be able to provide yet another significant improvement, strengthening Nova's leading position in scatterometry applications."

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Gabi Seligsohn, Nova's President and CEO added: "The addition of high end software solutions to nova's product portfolio represents a real opportunity for increased revenues and improved profitability and we are already starting to evidence its positive effects."

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NovaMARS is designed to work with the NovaScan® 3090 and NovaScan®3090Next Optical CD & shape-profiling scatterometry metrology systems, available as integrated or stand-alone systems. The combination of these hardware and software tools delivers 50% more throughput, 50% greater reliability and superior tool-to-tool matching for advanced technology beyond 45nm technology nodes.

**About Nova:** Nova Measuring Instruments Ltd. develops, produces and markets advanced integrated and stand alone metrology solutions for the semiconductor manufacturing industry. Nova is traded on the NASDAQ & TASE under the symbol NVMI. The Company's website is [www.nova.co.il](http://www.nova.co.il).

*This press release contains forward-looking statements within the meaning of safe harbor provisions of the Private Securities Litigation Reform Act of 1995 relating to future events or our future performance, such as statements regarding our anticipated market position, trends, demand for our products, expected deliveries, expected revenues, operating results, and earnings. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied in those forward-looking statements. These risks and other factors include but are not limited to: changes in customer demands for our products, new product offerings from our competitors, changes in or an inability to execute our business strategy, unanticipated manufacturing or supply problems, changes in tax requirements or the applicability of those requirements to Nova and changes in customer demand for our products. We cannot guarantee future results, levels of activity, performance or achievements. The matters discussed in this press release also involve risks and uncertainties summarized under the heading Risk Factors in Nova's Annual Report on Form 20-F for the year ended December 31, 2005 filed with the Securities and Exchange Commission on June 29, 2006. These factors are updated from time to time through the filing of reports and registration statements with the Securities and Exchange Commission. Nova Measuring Instruments Ltd. does not assume any obligation to update the forward-looking information contained in this press release.*

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