~~Top Secret~~

[redacted]

(b)(1)
(b)(3)
(T)

Weekly Surveyor

APPROVED FOR RELEASE
DATE: NOV 2001

[redacted]

~~Top Secret~~

241
TSWS-4/74
28 January 1974

[redacted]

WEEKLY SURVEYOR

OSI- TSWS-4/74

[redacted] 28 January 1974

Directorate of Science and Technology

This publication is intended to furnish the intelligence community with a timely survey of significant current scientific intelligence. The items herein are based on selected incoming reports of all kinds received during the previous week. The comments represent the views of the Office of Scientific Intelligence and the Office of Weapons Intelligence and are coordinated to the extent possible in the time available within CIA but, being based on the material at hand, are subject to change on receipt of further information or analysis. We caution against action taken solely on the basis of the preliminary evaluations herein. Substantive questions concerning items in this publication may be addressed directly to the Surveyor Staff, OSI, CIA Headquarters, Langley. [redacted] Questions concerning distribution should be forwarded through appropriate departmental channels.

CONTENTS

Weekly Surveyor [redacted]

28 January 1974

CONTENTS (Continued)

[redacted]

CONTENTS (Continued)

Weekly Surveyor [redacted]

28 January 1974

[redacted]

Soviet Scientist Probably Has Investigated Laser Methods of Uranium Isotope Separation: V. S. Letokhov, the Soviet laser scientist known for his work on photodissociation and laser isotope separation (LIS), discussed his work [redacted] during his US tour in the fall of 1973. On being questioned he usually denied he was working on uranium LIS, or he hedged the question. [redacted] physicist asked Letokhov his opinion on the most likely approaches to uranium isotope separation, suggesting two laser methods involving atomic uranium. Letokhov did not favor either of these approaches. He said he believes the use of uranium hexafluoride (UF_6) is best because its chemistry is understood. Also, his recently described two photon standing wave pumping technique can be used selectively to excite the U-235 atom. Letokhov was aware that the UF_6 gas is first hit by an IR laser tuned to the U-235 containing molecule and then dissociated by a UV source. He was also aware of the need to operate at a low temperature. [redacted]

Comment: Letokhov's comments indicate that he has at least investigated theoretical uranium LIS and possibly has even conducted some experiments. This reinforces our belief that the USSR is attempting to develop uranium enrichment processes by laser techniques. In spite of previous denials, Letokhov revealed considerable interest in and knowledge of uranium LIS and is aware of the existance

[redacted]

of technical problems such as those encountered by US scientists. His comments indicate that he is more likely to pursue the molecular dissociation approach than the atomic photoionization method. [redacted]

[redacted]