

List of Publications relating to CANDLE burnup written by H. Sekimoto

[1] neutron-nuclide coupling equation

(1) H. Sekimoto and T. H. Pigford,
A New Method for Calculating Space-Dependent Burnup,
Trans. American Nuclear Society, 18, 137(1974).

(2) H. Sekimoto and S. Yukinori,
A Fuel Management Code for Pebble-Bed Reactors,
Topical Meeting of Advanced in Fuel Management, pp.38-42, Pinehurst, North Carolina, March 2-5(1986).

(3) H. Sekimoto, T. Obara, S. Yukinori, and E. Suetomi,
Developments of Diffusion-Burnup Code for Equilibrium Cycle of Pebble-Bed Reactor,
SPEY21, pp.103-106, Tokyo(1987).

(4) H. Sekimoto, T. Obara, S. Yukinori, and E. Suetomi,
New Method to Analyze Equilibrium Cycle of Pebble-Bed Reactors,
J. Nucl. Sci. Technol., 24, 765-772(1987).

(5) T. Obara and H. Sekimoto,
New Numerical Method for Equilibrium Cycle of High Conversion Pebble Bed Reactors,
J. Nucl. Sci. Technol., 28[10], 947-957(1991).

[2] CANDLE equation

(1) H. Sekimoto and K. Ryu,
A New Reactor Burnup Concept "CANDLE",
PHYSOR 2000 Pittsburgh May 7-11, 2000.

(2) H. Sekimoto and K. Ryu,
Feasibility Study on the CANDLE New Burnup Strategy,
Trans. American Nuclear Society, 82, 207-208 (2000).

(3) H. Sekimoto and K. Ryu,
A Long Life Lead-Bismuth Cooled Reactor with CANDLE Burnup,
ICENES 2000, Petten, The Netherlands, Sept. 24-28, 2000, pp. 198-206 (2000).

(4) H. Sekimoto,
Long Life Reactor with "CANDLE" Burnup Strategy,
4th Japan-Korea Seminar on Advanced Reactors, Tokyo, Japan, October 19-20, 2000

(5) H. Sekimoto and K. Ryu,
Demonstrating the Feasibility of the CANDLE Burnup Scheme for Fast Reactors,
Trans. American Nuclear Society, 83, 45 (2000).

(6) H. Sekimoto, K. Ryu and Y. Yoshimura
CANDLE: The New Burnup Strategy
Nucl. Sci. Engin., 139[3], 306-317 (2001).

- (7) H. Sekimoto, V. Toshinsky and K. Ryu
Natural Uranium Utilization without Enrichment and Reprocessing
GLOBAL 2001, Paris, France, September 9-13, 2001
- (8) H. Sekimoto
Applications of "CANDLE" Burnup Strategy to Several Reactors
ARWIF-2001, Chester, UK, October 22-24 2001
- (9) H. Sekimoto and K. Tanaka,
CANDLE Burnup for Different Core Designs,
PHYSOR2002, Seoul, Korea, October 7-10, 2002
- (10) H. Sekimoto, K. Tanaka
Application of CANDLE Burnup Strategy to Small Reactors,
Trans. American Nuclear Society, 87 (CD) (2002).
- (11) Y. Ohoka, H. Sekimoto,
Application of CANDLE Burnup to Block-Type High Temperature Gas Cooled Reactor,
.ICONE11, Tokyo, Japan, April 20-23, 2003.
- (12) H. Sekimoto and Y. Ohoka
Application of CANDLE Burnup to Block-Fuel High Temperature Gas Reactor
ICAPP'03, Cordoba, Spain, May 4-7, 2003
- (13) Y. Ohoka, H. Sekimoto
Application of CANDLE Burnup to Block-Type High Temperature Gas Cooled Reactor for Incinerating
Weapon Grade Plutonium
GENES4/ANP2003, Kyoto, JAPAN, September 15-19, 2003
- (14) T. Takada, Y. Udagawa, H. Sekimoto
Simulation Study on CANDLE Burnup Applied to an LBE-Cooled Metallic Fuel Fast Reactor
GENES4/ANP2003, Kyoto, JAPAN, September 15-19, 2003
- (15) E. Greenspan, P. Hejzlar, H. Sekimoto, G. Toshinsky and D.C. Wade,
New Fuel Cycle and Fuel Management Options in Heavy Liquid Metal Cooled Reactors
ANFM 2003, Hilton Head Island, South Carolina, USA, October 5-8, 2003
- (16) H. Sekimoto,
Contribution of CANDLE Burnup to Future Equilibrium Nuclear Energy Utilization,
GLOBAL 2003, November 16-20, 2003
- (17) H. Sekimoto, T. Takada, and Y. Udagawa
Startup of CANDLE Burnup in an LBE-Cooled Metallic Fuel Fast Reactor,
GLOBAL 2003, New Orleans, Louisiana, November 16-20, 2003.
- (29) E. Greenspan, P. Hejzlar, H. Sekimoto, G. Toshinsky and D. Wade,
New Fuel Cycle and Fuel Management Options in Heavy Liquid Metal-Cooled Reactors
Nucl. Technol., 151[2], 177-191 (2003).
- (181) Y. Ohoka and H. Sekimoto,
Application of CANDLE Burnup to Block-type High Temperature Gas Cooled Reactor;
Nucl. Engin. and Design, 229[1], 15-23 (2004).
- (19) H. Sekimoto and Y. Ohoka,

Burnup and Temperature Effects on CANDLE Burnup of Block-Type High Temperature Gas Cooled Reactor,
ICONE12, Arlington, Virginia, April 25-29, 2004

(20) H. Sekimoto,
Application of “CANDLE” Burnup to Small Fast Reactor,
5th Int. Conf. on Nuclear Option in Countries with Small and Medium Electricity Grids, Dubrovnik, Croatia, May 16-20, 2004

(21) Y. Ohoka, Ismail, H. Sekimoto
Effects of Burnup and Temperature Distributions to CANDLE Burnup of Block-Type High Temperature Gas Cooled Reactor;
ICAPP '04, Pittsburgh, PA , June 13-17 2004

(22) Y. Ohoka, H. Sekimoto,
Simulation Study on CANDLE Burnup of High Temperature Gas Reactor,
Trans. American Nuclear Society, 92 (CD) (2004).

(23) H. Sekimoto,
Effect of Neutron Spectra and Fuel Burnup on CANDLE Calculation,
Trans. American Nuclear Society, 92 (CD) (2004).

(24) Y. Ohoka, T. Watanabe, H. Sekimoto
Neutron Characteristics of CANDLE Burnup Applied to HTTR
COE-INES – Indonesia International Symposium 2005, Bandung, Indonesia, March 2-4, 2005

(25) H. Sekimoto,
Application of “CANDLE” Burnup to LBE Cooled Fast Reactor,
IAEA-TECDOC-1451, pp. 203-212(2005).

(26) H. Sekimoto, Y. Udagawa, Y. Ohoka,
Application of “CANDLE” Burnup to Fast and Thermal Reactors,
ICAPP '05, Seoul, KOREA, May 15-19, 2005.

(27) Y Ohoka, H Sekimoto, T Watanabe, Liem P H., S. Wakana, Ismail,
Neutronic Characteristics of CANDLE Burnup Applied to Block-Type High Temperature Gas Cooled Reactor,
ICAPP '05, Seoul, KOREA, May 15-19, 2005.

(28) H Sekimoto, Y Udagawa,
Shut-down and Restart Simulation of CANDLE Fast Reactors,
Trans. American Nuclear Society, 93 (CD) (2005).

(30) H. Sekimoto and S. Miyashita,
Startup of “Candle” Burnup in Fast Reactor from Enriched Uranium Core,
ICENES'2005, Brussels, Belgium, August 21–26, 2005

(31) H. Sekimoto,
Application of CANDLE Burnup Strategy for Future Nuclear Energy Utilization,
Progress in Nucl. Energy, 47[1-4], 91-98(2005).

(32) Y. Ohoka, T. Watanabe, H. Sekimoto,
Simulation Study on CANDLE Burnup Applied To Block-Type High Temperature Gas Cooled Reactor ,
Progress in Nucl. Energy, 47[1-4], 292-299(2005).

- (33) H. Sekimoto,
CANDLE Burnup of Fast Reactor with Depleted Uranium,
9-th Int. Conf. "Nuclear Safety & Nuclear Education" Obninsk, Russia, 24-27 October 2005.
- (34) H. Sekimoto, Y. Udagawa,
Effects of Fuel and Coolant Temperatures and Neutron Fluence on CANDLE Burnup Calculation,
J. of Nucl. Sci. Technol., 43[2], 189-197 (2006)
- (35) H. Sekimoto,
Fuel-cycle of CANDLE Burnup with Depleted Uranium,
ICAPP'06, Reno, Nevada, June 4-8 2006.
- (36) H. Sekimoto and S. Miyashita,
Startup of "Candle" Burnup in Fast Reactor from Enriched Uranium Core,
Energy Conv. Manag., 47[17], 2772-2780 (2006).
- (37) H. Sekimoto
Candle Burnup in a Fast Reactor Core and Relating Nonlinear Problems
2nd International Conf. on Quantum Electrodynamics and Statistical Physics (QEDSP2006), Kharkov
Ukraine, 19-23 September, 2006.
- (38) Ismail, P. Liem, N. Takaki, and H. Sekimoto,
Systems of Symbiotic Large FBRs and Small CANDLE-Thorium-HTGRs,
PHYSOR-2006, Vancouver, BC, Canada, September 10-14, 2006.
- (39) M. Yan, H. Sekimoto,
Small Long Life CANDLE Fast Reactor Research (Part II: Accident Analysis),
PHYTRA1, Marrakech, Morocco, 14-16 March 2007
- (40) A. Nagata, H. Sekimoto,
Analysis of Recladding in CANDLE Reactor,
ICONE-15, Nagoya, Japan, 22-26 April, 2007.
- (41) M. Yan, H. Sekimoto
Small Long Life CANDLE Fast Reactor Research,
ICONE-15, Nagoya, Japan, 22-26 April, 2007.
- (41) Ismail, Y. Ohoka, P. Liem, H. Sekimoto,
Long Life Small CANDLE-HTGRs with Thorium,
Ann. Nucl. Energy, **34**[1-2], 120-129 (2007).
- (42) A. Nagata, H. Sekimoto,
Comparison of removed fuel compositions of CANDLE, PWR and FBR,
GLOBAL 2007, Idaho, USA, 9-13 September, 2007.
- (43) A. Nagata, H. Sekimoto,
Effects of Recladding in CANDLE Reactor
ANS/ENS International Meeting, Washington D.C, USA, 11-15 November 2007
- (44) M. Yan, H. Sekimoto,
Design research of small long life CANDLE fast reactor,
Ann. of Nucl. Energy **35**[1], 18-36 (2008).

- (45) H. Sekimoto, A. Nagata,
“CANDLE” burnup regime after LWR regime,
Progress in Nucl. Energy **50**, 109-113(2008).
- (46) N. Takaki, H. Sekimoto,
Potential of CANDLE reactor on sustainable development and strengthened proliferation resistance,
Progress in Nucl. Energy **50**, 114-118(2008).
- (47) Peng Hong Liem, Ismail, Hiroshi Sekimoto,
Small high temperature gas-cooled reactors with innovative nuclear burning,
Progress in Nucl. Energy **50**, 251-256(2008).
- (48) Mingyu Yan, Hiroshi Sekimoto,
Study on small long-life LBE cooled fast reactor with CANDLE burn-up – Part I: Steady state research,
Progress in Nucl. Energy **50**, 286-289(2008).
- (49) H. Sekimoto, A. Nagata,
Fuel Cycle for “CANDLE” Reactors,
ARWIF-2008, Tsuruga/Fukui, 20-22 February 2008.
- (50) H. Sekimoto, M. Yan,
A Design and Safety Features of Small CANDLE Fast Reactor,
ICAPP '08, Anaheim, CA, USA, June 8-12, 2008.
- (51) M. Yan, H. Sekimoto,
Safety analysis of small long life CANDLE fast reactor,
Ann. Nucl. Energy, **35**[5], 813–828 (2008).
- (52) H. Sekimoto, M. Yan
Design study on small CANDLE reactor
Energy Conversion and Management, **49**[7], 1868-1872 (2008).
- (53) H. Sekimoto,
Basic Theory of CANDLE Burn-up,
PHYSOR08, Casino-Kursaal Conference Center, Interlaken, Switzerland, September 14-19, 2008.
- (54) H. Sekimoto,
Practical Design of CANDLE Reactor,
INSAC-2008, Mumbai, India, November 24-26, 2008.
- (55) A. Nagata, N. Takaki, H. Sekimoto
A feasible core design of lead bismuth eutectic cooled CANDLE fast reactor
Ann. Nucl. Energy, **36**[5], 562-566 (2009).
- (56) H. Sekimoto,
Five Requirements for Nuclear Energy and CANDLE Reactors,
HeLiMeRT 2009, Jeju, Korea, May 18-19, 2009
- (57) H. Sekimoto, A. Nagata,
Core Height Shortening of CANDLE Reactor by Employing MOTTO Cycle,
Trans. American Nuclear Society, **101** (CD) (2009).
- (58) H. Sekimoto,

CANDLE Reactor: An option for simple, safe, high nuclear proliferation resistant, small waste and efficient fuel use reactor,
Nuclear Power and Energy Security (ed. S. Apikyan, D. J. Diamond), pp. 197- 204, Springer (2009).

(59) H. Sekimoto, S. Nakayama, H. Taguchi, T. Ohkawa,
Power Flattening for Sodium Cooled Metallic Fuel CANDLE Reactor by Adding Thorium in Inner Core
PHYSOR 2010, Pittsburgh, Pennsylvania, USA, May 9 - 14, 2010.

(60) H. Sekimoto, A. Nagata,
Introduction of MOTTO Cycle to CANDLE Fast Reactor,
PHYSOR 2010, Pittsburgh, Pennsylvania, USA, May 9 - 14, 2010.

(61) T. Okawa, S. Nakayama, H. Sekimoto,
Design Study on Power Flattening to Sodium Cooled Large-Scale Candle Burning Reactor with Using
Thorium Fuel,
ICONE18, Xi'an, China, May 17-21, 2010.

(62) H. Sekimoto,
Six Requirements for Nuclear Energy System and Candle Reactor,
ENC 2010, Barcelona, Spain, May 31 – June 2, 2010.

(63) H. Sekimoto, S. Nakayama, H. Taguchi, T. Okawa,
Power Flattening for CANDLE Fast Reactor by Adding Thorium in Inner Core,
ICAPP'10, San Diego, CA, USA, June 13-17, 2010.