Curriculum Vitae

First name:	Reza
Last name	Akhavan
Gender:	Male
Date of Birth:	29/12/1971
Place of Birth:	Iran
Nationality:	Iranian
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Organization:	Iranian Research Institute of Forests and Rangelands (RIFR) since 2000, P. O. Box. 13185-116, Tehran, Iran. web: www.rifr-ac.ir
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Education

1999-2004: Ph.D. Forest Biometry, Faculty of Natural Resources, University of Tehran, Iran.

1994-1996: M.Sc. Forest Inventory, Faculty of Natural Resources, University of Tehran, Iran.

1990-1994: B.Sc. Forestry, Faculty of Natural Resources, University of Tehran, Iran.

Research area and responsibilities

1- Forest Inventory and Biometry, Geostatistics, Point patterns analysis.

2- Director of 9 research projects and partner in 19 research projects so far.

3- Member of editorial boards at Iranian Journal of Forest (2011-2020), www.cabi-publishing.org

4- Lecturer of *Forest Biometry*, *Geostatistics*, *Spatial statistics* and *Advance statistics in forest* at Islamic Azad University, Tehran.

5-Member of Iranian Society of Forestry (www.isaforestry.ir)

Training courses

7/2003- 10/2003: Subject: Geostatistics, Place: ETHz (Swiss Federal Institute of Technology, Zürich) as academic guest.
7/2008- 10/2008: Study visit at Göttingen University, Germany by DAAD scholarship.

Research Projects

As director:

1- Application of geostatistics for estimation of forest plantation stock (Finished).

2- Spatial variability and estimation of forest plantation stock using geostatistical analysis in the Caspian region of Iran (Finished).

3- Spatial pattern of trees during forest development stages at untouched beech stands in the Caspian forests of Iran (Finished).

4- Application of geostatistics for estimation and mapping of forest growing stock at unmanaged natural forests in the Caspian region of Iran (Finished).

5- Monitoring and Assessment of tree species richness and spatial Modeling of biodiversity in Northern Iran Forests at fixed sample plots level (Finished).

6- Application of K-nn sampling method for forest inventory in Iran (Finished).

7- Monitoring of volume increment and volume stock of Hyrcanian and Arasbaran forests of Iran using permanent sample plots (Finished).

8- Determining the stem form factor and preparing the volume tables for the four main species of poplar in eight poplar-growing provinces of Iran by non-destructive method (on going).

9- Modeling carbon sinks economic value within the native and exotic plantations of the Hyrcanian ecoregion (on going).

As partner:

1- Ctyopreservation of seeds of some of the forest species

2- Quantitative ecology and spatial pattern of three species of Oak (*Quercus brantii, Q. infectoria and Q. libani*) in less destroyed regions and comparison to destroyed regions in Kordestan and Kermanshah provinces o Iran

3- Determination of suitable areas for extensive development of mangrove forests in southern coast of Iran using RS and GIS

4- Acorn crops estimation of Iran`s native oaks using different visual surveys and acorn traps

5- Appropriate characteristics of beech stands for application of close to nature Silviculture (selection system)

6- A dendro- chronological investigation on the amount and trend of the five trees species increment in Hyrcanian forests

7- Investigation on the mangrove forest plantation and extension in Persian gulf

8- Comparison between the two inventory methods of stratified clustering plan and random systematic network to estimate the volume, density and stand structure in Mazandaran forests, Iran

9- Collection of *Aphelonyx persica* galls in Kohgiluyeh and boyerahmad Province and determination of its density and Distribution areas in Iran

10- Recognizing the sensitive regions to fire in north forest of Iran and classification of trees against the fire

11- Mapping Caspian forests using remotely sensed data

12- Investigation on spatiotemporal pattern of regeneration gaps in Hyrcanian forests

13- Quantitative Evaluation and Monitoring of́ Sahara-Sandi forests Using Sentinel2 data (First Phase)

14- Evaluation and mapping of Zagros forests Using Sentinel2 data (First Phase)

15- Enrichment of Plant Species in Segment Shakai Forest of National Botanical Garden of Iran

16- Evaluation of poplar plantations in Iran

17- Modeling Snowfall damages within native and non-native plantation stands in Hyrcanian plain forests of Iran using logistic regression

18- Quantitative and Qualitative Evaluation of Trees and Shrubs in Riparian Ecosystem of Zarrineh Ruod in Azerbaijan Province of Iran (on going)

19- Developing and Simulating Allometry Models for Predicting Economic Value of fine woody Debris Carbon Stock in the Hyrcanian Beech Forests (on going)

Publications

- Book

1- **Akhavan**, R. and Namiranian, M., 2016. Forest Growth & Yield Modeling. University of Tehran Press, No. 3645. 482 pp.

2- **Akhavan**, R. and Namiranian, M., 2021. Ecology & Management of mixed species forests. University of Tehran Press, No. 4480. 716 pp.

- Journal papers

1- **Akhavan**, R., Zobeiri, M. and Namiranian, M., 2001. Study of stratification method using for volume estimation in Kheyroodkenar forest. Iranian Journal of Natural Resources. 54 (3): 235-245.

2- **Akhavan**, R., Zobeiri, M., Zahedi Amiri, Gh., Namiranian, M. and Mandallaz., D., 2006. Spatial Structure and Estimation of Forest Growing Stock using Geostatistics in the Caspian region of Iran. Iranian Journal of Natural Resources, 59 (1): 89-102.

3- Mataji, A., **Akhavan**, R. and Aghakhani, S., 2007. Evaluation of afforestation success by broad leaf species in Arak. Iranian Journal of Forest and Poplar Research, 14 (4): 338-359.

4- **Akhavan**, R. and Namiranian, M., 2007. Slenderness coefficient of five major tree species in the Hyrcanian forests of Iran. Iranian Journal of Forest and Poplar Research, 15 (2): 165-180.

5- Aghakhani, S., Mataji, A. and **Akhavan**, R., 2007. Evaluation of different pattern of management on quantitative and qualitative characteristics of Ash trees. Iranian Journal of science and techniques in natural resources, 3 (3): 1-16.

6- Mirakhorlou, Kh. and **Akhavan**, R., 2008. Investigation on boundary changes of northern forests of Iran using remotely sensed data. Iranian Journal of Forest and Poplar Research, 16 (1): 139-148.

7- **Akhavan**, R. and Kleinn, C., 2009. On the potential of kriging for estimation and mapping of forest plantation stock. Iranian Journal of Forest and Poplar Research, 17 (2): 303-318.

8- Shahsavari, H., Mataji, A. and **Akhavan**, R., 2009. Spatial pattern of dead wood in managed and unmanaged beech stands. Iranian Journal of science and techniques in natural resources, 4(1): 11-18.

9- Anissi, I., Kia- Daliri, H., **Akhavan**, R. and Babaei Kafaki, S., 2010. Impact of management on quantitative and qualitative characteristics of forest in comparison to unmanaged forest. Iranian Journal of Forest and Poplar Research, 17 (4): 615-626.

10- **Akhavan**, R., Zahedi Amiri, Gh. and Zobeiri, M., 2010. Spatial variability of forest growing stock using geostatistics in the Caspian region of Iran. Caspian Journal of Environmental Sciences (ISI), 8 (1): 43-53.

11- **Akhavan**, R. and Kia-Daliri, H., 2010. Spatial variability and estimation of tree attributes using geostatistics in a plantation forest in the Caspian region of Iran. Caspian Journal of Environmental Sciences (ISI), 8 (2): 163-172.

12- **Akhavan**, R., Sagheb-Talebi, Kh., Hassani, M. and Parhizkar, P., 2010. Spatial patterns in untouched beech (*Fagus orientalis* Lipsky) stands over forest development stages in Kelardasht region of Iran. Iranian Journal of Forest and Poplar Research, 18 (2): 322-336.

13- Kia- Daliri, H., **Akhavan**, R. and Anissi, I., 2011. Timber marking and its impact on forest stand. Iranian Journal of Forest, 3 (1): 49-59.

14- **Akhavan**, R., Karami Khoramabadi, M. and Soosani, J. 2011. Application of Kriging and IDW methods in mapping of crown cover and density of coppice oak forests (case study: Kakareza region, Khorramabad). Iranian Journal of Forest, 3 (4): 305-316.

15- **Akhavan**, R., Sagheb Talebi, Kh., Zenner, E.K. and Safavimanesh, F., 2012. Spatial patterns in different forest development stages of an intact old-growth Oriental beech forest in the Caspian region of Iran. European Journal of Forest Research, 131 (5): 1355-1366.

16- Hosseini, V., **Akhavan**, R. and Tahmasebi, M., 2012. Effect of Pistachio (*Pistacia atlantica*) canopy on the spatial distribution of soil chemical characteristics (Case study: Sarvabad, Kurdistan). Iranian Journal of Forest, 4 (1): 13-24.

17- Momeni Moghaddam, T., Akbarinia, M., Sagheb- Talebi, Kh., **Akhavan**, R. and Hosseini, S.M., 2012. Impact of some Environmental Factors on regeneration status of *Juniperus excelsa* subsp. *polycarpus* in Hezar Masjed Mountains (Layen Region) of Iran. Iranian Journal of Forest and Poplar Research, 20 (3): 444-459.

18- Momeni Moghaddam, T., Akbarinia, M., Sagheb- Talebi, Kh., **Akhavan**, R. and Hosseini, S.M., 2012. Patterns of composition and diversity vegetation in relation to different environment: a case study from Hezar Masjed Mountains, north east Iran. Annals of biological research, 3 (7): 3278-3286.

19- Momeni Moghaddam, T., Sagheb- Talebi, Kh., Akbarinia, M., **Akhavan**, R. and Hosseini, S.M., 2012. Impact of Some Physiographic and Edaphic Factors on Quantitative and Qualitative Characteristics of Juniper forest (Case study: Layen Region- Khorasan). Iranian Journal of Forest, 4 (2): 143-156.

20- **Akhavan**, R. and Sagheb Talebi, Kh., 2012. Application of bivariate Ripley's K- function for studying competition and spatial association of trees (Case study: intact Oriental beech stands in Kelardasht). Iranian Journal of Forest and Poplar Research, 19 (4): 632-644.

21-Khanhasani, M., **Akhavan**, R., Sagheb Talebi, Kh. and Vardanyan, Zh., 2013. Spatial patterns of oak species in the Zagrosian forests of Iran. International Journal of Biosciences, 3(8): 66-75.

22- Batoubeh, P., **Akhavan**, R., Pourhashemi, M**.** and Kia-Daliri, H., 2013. Determination of Minimum Plot Size to Study the Spatial Patterns of Manna Oak Trees (*Quercus brantii* Lindl.) Using Ripley's K- Function at Less-Disturbed Stands in Marivan Forests. Journal of forest and wood product, 66 (1): 27-38.

23- Khalili, A., Kia-Daliri, H., **Akhavan**, R. and Mataji, A., 2013. Comparison of the spatial patterns of fruit species in managed and unmanaged Hyrcanian forests. Journal of wood and forest science and technology, 20 (3): 77-94.

24- Rezaei, E., **Akhavan**, R., Soosani, J. and Pourhashemi, M., 2013. Efficiency of Kriging for Estimation and Mapping of Crown Cover and Density of Zagros Oak Forests. Journal of forest and wood product, 67 (3): 359-370.

25- Alijani, V., Sagheb Talebi, Kh. and **Akhavan**, R., 2014. Quantifying of intact beech (Fagus orientalis Lipsky) stands' structure over forest development stages (Case study: Kelardasht region, Mazandaran, Iran). Iranian Journal of Forest and Poplar Research, 21 (3): 396-410.

26- Momeni Moghaddam, T., Akbarinia, M., Sagheb- Talebi, Kh., **Akhavan**, R. and Hosseini, S.M., 2014. Impact of Physiographic Factor on Biodiversity Indices of Herbaceous species Juniper Stands in Hezar Masjed Mountains. Iranian Journal of Biology, 27 (3): 511-519.

27- Sohrabi Saraj, B., Kia- Daliri, H., **Akhavan**, R. and Babaei Kafaki, S., 2014. Spatial variability and mapping of forest infection by Yellow Mistletoe (*Loranthus europaeus*) in Zagros forests of Iran. Iranian Journal of Forest & Range Protection Research, 12 (2): 94-106.

28- **Akhavan**, R., Kia-Daliri and H. and Etemad, 2015. Geostatistically Estimation and Mapping of Forest Stock in a Natural Unmanaged Forest in the Caspian Region of Iran. Caspian Journal of Environmental Sciences (ISI), 13 (1): 61-74.

29- Omidvar Hosseini, F., **Akhavan**, R., Kia-Daliri, H. and Mataji, A., 2015. Spatial Patterns and Intra-specific Competition of Chestnut leaf Oak (*Quercus castaneifolia*) using Ripley's K-function. Journal of forest and wood product, 68 (1): 107-120.

30- Zenner, E.K., Sagheb-Talebi, K., **Akhavan**, R. and Peck, J.E., 2015. Integration of small-scale canopy dynamics smoothes live-tree structural complexity across development stages in old-growth Oriental beech (Fagus orientalis Lipsky) forests at the multi-gap scale. Forest Ecology and Management, 335 (2015): 26–36.

31-Khanhasani, M., Sagheb-Talebi, Kh., **Akhavan**, R. and Vardanyan, Zh., 2015. The effect of environmental factors on three oak species distribution (Q. brantii Lindl., Q. libani Oliv., Q. infectoria Oliv.) in northern Zagros forests. Iranian Journal of Forest and Poplar Research, 23 (3): 549-563.

32- Vahedi, A.A., Mataji, A. and **Akhavan**, R., 2015. Modeling, Carbon sequestration, Biomass, Sustainable development, Hybrid poplar, Cellulose resources, Bio-energy. Iranian Journal of Applied Ecology, 13: 65-77.

33- Omidvar Hosseini, F., **Akhavan**, R., Kia- Daliri, H. and Mataji, A., 2015. Spatial patterns and intra-specific competition of Chestnut leaf Oak (Quercus castaneifolia) using O- ring statistic. Iranian Journal of Forest & Poplar Research, 23 (2): 295-302.

34- **Akhavan**, R., A. Mahdavi and O. Karami, 2016. Spatial patterns and spatial structure of dried trees in Bioreh Forests, Ilam Province. Iranian Journal of Forest, 8 (1): 67-78.

35- Zohrevandi, A.A., Pourbabaei, H., **Akhavan**, R. and Bonyad, A., 2016. Determination of appropriate grid dimension and sampling plot size for assessment of woody species diversity in Zagros Forest, Iran. Biodiversitas, 17: 24-30.

36- Askari, Y., Soltani, A., **Akhavan**, R. and Tahmasebi Kohyani, P., 2016. Comparison between above and below ground biomass and carbon stocks of Quercus brantii in central and south Zagrosian forests. IIOAB,7 (4): 30-37.

37- Sohrabi Saraj, B., Kia- Daliri, H., Babaei Kafaki, S. and **Akhavan**, R., 2015. Spatial variability of forest infection with Yellow Mistletoe (Loranthus europaeus) in Zagros forests of Iran using IDW and Kriging methods. Science Journal (CSJ), 36 (4): 1782-1793.

38- Habibi, M., Kia-Daliri, H. and **Akhavan** R., 2015. Effect of the Pattern of Tree Planting on Quantitative and Qualitative Characteristics of Elm in and Urban Area. Environmental Sciences, 13 (3): 25-34.

39- Mahdavi. A., Aziz, J. and **Akhavan** R., 2016. Mapping tree density of Zagros oak forests using Kriging and Worldview-2 satellite images from Google Earth database. Journal of Wood & Forest Science and Technology, 23 (4): 87-110.

40- Mirakhorlou, Kh. and **Akhavan**, R., 2017. Forest density and orchard classification in Hyrcanian forests of Iran using Landsat 8 data. Journal of Forest Science, 63 (8): 355–362.

41- Sohrabi Saraj, B., Babaei Kafaki, S., Kia- Daliri, H., and **Akhavan**, R., 2017. Classification of worldview 2 satellite image by using object-based technique to identifying the infection of Zagros forests by *Loranthus europaeus*. Iranian Journal of Forest, 8(4): 445-458.

42. **Akhavan**, R., Momeni Moghaddam, T., Akbarinia, M. and Hosseini, S.M., 2017. Spatial patterns and intra-specific competition of Juniper tree in different life stages using O- ring statistic in Layen Forests, Iran. Forest and Wood Products, 70 (1): 111-125.

43- Vahedi, A.A., Mataji, A. and **Akhavan**, R., 2017. Modeling the commercial volume of trees in mixed beech stands of Hyrcanian forests through artificial neural network. Forest and Wood Products, 70 (1): 49-60.

44- Kazempour Larsary, M., Taheri Abkenar, K., **Akhavan**, R., Pourbabaei, H. and Amanzadeh, B., 2017. Spatial patterns, competition and spatial association of trees from different development stages in mixed beech (Fagus orientalis Lipsky) stands. Forest and Wood Products, 70 (2): 303-314.

45- Vahedi, A.A., **Akhavan**, R. and Bijani-Nejad, A.R., 2017. Analysis of spatial pattern and association for endemic tree species in the different developmental stages of Nour Forest Park natural stands through function of K-Ripley. Journal of Wood & Forest Science and Technology, 24 (1): 61-75.

46- Askari, Y., Soltani, A., **Akhavan**, R. and Tahmasebi Kohyani, P., 2017. Assessment of root-shoot ratio biomass and carbon storage of Quercus brantii Lindl. in the central Zagros forests of Iran. Journal of Forest Science, 63 (6): 282–289.

47- Askari, Y., Soltani, A. and **Akhavan**, R., 2017. Estimation of annual radial growth, biomass and carbon allocation in different forms of Quercus brantii Lindl. tree species. Iranian Journal of Forest, 9 (3): 427-444.

48- **Akhavan**, R., Parhizkar, P., Amanzadeh, B. and Mohamadnejad Kiasari, Sh., 2018. Intra-specific competition of beech using Mark Correlation Function (MCF) in the Hyrcanian forests of Iran. Forest and Wood Products, 70 (4): 637-648.

49- Mahdavi. A., Karami, T. and Akhavan R., 2018. Impacts of oleo- gum resin extraction periodicity on biometric variables of wild pistachio. Iranian Journal of Forest, 10 (2): 153-166

50- **Akhavan**, R. and Hassani, M., 2018. Efficiency of C-nn distance sampling method in comparison to sampling with fixed area plot for estimation of forest stem basal area in Kheyroud forests of northern Iran. Iranian Journal of Forest, 10 (1): 111-122.

51- Mirzaei, M., Bonyad, A.E., **Akhavan**, R. and Naghdi, R., 2018. Decline modelling of oak trees under effects of physiographic factors in semi-arid forests of Iran. Forestry Ideas, 56: 171–181.

52- Ghanbari Motlagh, M., Babaei Kafaki, S., Mataji, A. and **Akhavan**, R., 2018. Estimating and mapping forest biomass using regression models and Spot-6 images (case study: Hyrcanian forests of north of Iran). Environmental Monitoring and Assessment, 190: 352. https://doi.org/10.1007/s10661-018-6725-0.

53- **Akhavan**, R., Khanhasani, M. and Khodakarami, Y., 2018. Spatial patterns and inter-specific competition of three oak species in the Baneh forests of western Iran. Forest and Wood Products, 71(2): 149-159.

54- **Akhavan**, R.**,** Mahdavi. A. and Kianfar, M., 2018. Analysis of the decline status of Zagrosian oak forests using spatial statistics. Iranian Journal of Forest and Range Protection Research, 16 (2): 129-145.

55- Yousofvand Mofrad, M., Soosani, J., **Akhavan**, R., Abrari Vajari, K., Sepahvand, E. and Jahanpour, F., 2018. Estimating above-ground woody biomass of planted Poplar using Allometric models. Journal of Wood & Forest Science and Technology, 25 (2): 97-108.

56- Ensafi Moghaddam, T., Khoshakhlagh, F., Shamsipour, A., **Akhavan**, R., Safarrad, T. and Amiraslani, F., 2019. Analysis of simultaneous dust fall and rainfall events frequency in southwest of Iran. Iranian Journal of Range and Desert Research, 25 (4): 770-788.

57- Mirzaei, M., Bonyad, A.E., **Akhavan**, R. and Naghdi, R., 2019. Crown Ratio Modelling of *Quercus Brantii* Trees in Dalab Forests of Ilam. Iranian Journal of Forest, 11 (1): 1-11.

58- Mirzaei, M., Bonyad, A.E., **Akhavan**, R. and Naghdi, R., 2019. Decline modelling of *Quercus brantii* under effects of physiographic factors in Dalab forests of Ilam. Forest Research and Development, 5 (2): 329-342.

59- Ghanbari Motlagh, M., Babaei Kafaki, S., Mataji, A. and **Akhavan**, R., 2019. Calculation of the aboveground carbon stocks with satellite data and statistical models integrated into the climatic parameters in the Alborz Mountain forests (northern Iran). Journal of Forest Science, 65 (12): 493–503.

60- **Akhavan**, R. and Rostamikia, Y., 2020. Inter-specific competition of juniper trees in Kandiragh forest reserve using O-ring statistic and mark correlation function. Forest and Wood Products, 73(2): 189-200.

61- Ghanbari Motlagh, M., Babaei Kafaki, S., Mataji, A., **Akhavan**, R. and Amraei, B., 2020. An introduction to the distribution of carbon stocks in temperate broadleaf forests of northern Iran. Journal of Forest Science, 66 (2): 70–79.

62- Ghanbari Motlagh, M., Babaei Kafaki, S., Mataji, A. and **Akhavan**, R., 2020. Estimation of Forest Above Ground Biomass in Hyrcanian Forests Using Satellite Imagery. Journal of Environmental Science and Technology, 22 (5): 1–13.

63- Alijani, V., Sadeghi, M.M., Namiranian, M. and **Akhavan**, R., 2020. Determination of the Optimum Plot Size to Study the Spatial Patterns of *Juniperus Excelsa* Trees (Case study: Atashgah, Karaj, Iran). Journal of Environmental Science and Technology, 22 (7): 113–123.

64- Ostadhashemi, R., **Akhavan**, R., Abbaslou, A., Safapour, Gh. and Pourkhaki, M., 2021. Estimation and Comparison of Co_2 Accumulation between Two Broad-Leaved and Coniferous Stands in Arasbaran Forests Based on Physiographical Characteristics. Environmental Research, 12 (23): 91–103.

65- Zabihi, K.A., Mataji, A., Babaei Kafaki, S. and **Akhavan**, R., 2021. Changes in aboveground biomass resulting from disturbance in natural beech Forests at small scale (*Fagus orientalis* Lipsky) (Case study: Mazandaran province, Iran). Forest Research and Development, 6 (4): 543-557.

66- Azizy, Y., **Akhavan**, R., Kia-Daliri, H. and Soleimani, R., 2021. Evaluation of Soil Erodibility Using FAO Fuzzy Model in Closed and Unclosed Forest Zones in Dinarkouh of Iran. Eurasian Soil Science, 54 (2): 304-315.

67- Ostadhashemi, R., **Akhavan**, R., Abbaslou, A., Safapour, Gh. and Pourkhaki, M., 2021. Classification of forest degradation based on quantitative characteristics in Arasbabran forests (Iran). Iranian Journal of Forest and Range Protection Research, 18 (2): 287–299.

68- Ghanbari Motlagh, M., Babaei Kafaki, S., Mataji, A. and **Akhavan**, R., 2021. Prelude on Estimation of Carbon Reserves in Beech Forests of Northern Iran. Human and Environment, 57: 59–73.

69- Babaie Kafaky, S., Kiadaliri, H., Mataji, A., **Akhavan**, R., Hodjati, S.M. 2021. Assessment of ecological capability and decline of *Quercus castaneifolia* C.A.M habitat in Hyrcanian forests. International Journal of Environmental Science and Technology, 19 (4): 1-14.

70- Hosseini, A. and **Akhavan**, R., 2022. Investigation and Comparison of Slenderness Coefficient of Old Persian Oak and Wild Pistachio Trees in Different Site Conditions in the Middle Zagros. Ecology of Iranian Forests, 10 (19): 183–192.

71- Azizy, Y., **Akhavan**, R., Kia-Daliri, H. and Soleimani, R., 2022. Effect of management activities and aspect on tree, soil and biodiversity variables of tree species in Dinarkuh forests of Ilam. Iranian Journal of Forest, 14 (3): 275-290.

72- Zabihi, K.A., Mataji, A., **Akhavan**, R. and Babaei Kafaki, S., 2021. Spatial pattern and structure analysis of natural and harvesting gaps in Hyrcanian forests using spatial statistics methods. Iranian Journal of Forest, 14 (2): 169-183.

73- **Akhavan**, R.**,** Hassani, M. and Sadeghzadeh Halaj, M.H., 2023. The comparison of pure beech stands using SCI index in the Hyrcanian forests of Iran. Iranian Journal of Forest, 14 (4): 445-456.

74- Bayat, M., **Akhavan**, R., Heidari, S. and Hamidi, S.K., 2023. Comparison of Random Forest Models, Support Vector Machine and Multivariate Linear Regression for Biodiversity Assessment in the Hyrcanian Forests. Journal of Environmental Studies, 48 (4): 513-530.

75- **Akhavan**, R. and Hassani, M., 2023. Quantifying the structure of pure beech forests using spatial structural indices. Forest Research and Development, 9 (2): 221-235.

76- Mirahmadi, S.B., Mataji, A., Babaie Kafaky, S. and **Akhavan**, R., 2023. Investigating the structure of the mosaics of developmental phases in mixed oriental Beech virgin forests in northern Iran. Austrian Journal of forest Science, 140 (3): 213-238.

77- Habibi, M., Babaei Kafaki, S., Meshkatee, A.H., and **Akhavan** R., 2022. Investigation of the relationship between diameter growth of Alder species and climatic parameters in Neka-Zalmarud forests of Mazandaran province. Journal of Environmental Science and Technology, 24 (5): 27-43.

78- Bakhtiari, Sh., Rostami Shahraji, T., **Akhavan**, R. and Ebrahimi Atani, R., 2024. Spatial Distribution Modeling of *Pistacia atlantica* using Artificial Neural Network in Khohir National Park. Ecology of Iranian Forests, 11 (22): 57- 66.

79- Vahedi, A.A., Fallah, A., **Akhavan**, R., Nazariani, N., Khatibnia, E. and Hamidi, S.K., 2024. Spatial Analyses for Fine Woody Debris Volume Stock in the Hyrcanian Research Forest of Kheyrood-Kenar. Ecology of Iranian Forests, 12 (1): 73- 87.

80- Mirahmadi, S.B., Mataji, A., Babaie Kafaky, S. and **Akhavan**, R., 2024. Structural diversity of mosaics of developmental stages in the managed mixed forest of oriental beech (case study: Ramsar 30 watershed). Forest Research and Development, 9 (4): 481- 497.

81- Ostadhashemi, R., **Akhavan**, R. and Abedi, R., 2024. Assessing and classification of tree species diversity in the Arasbaran forests of Iran. Forest Research and Development, 10 (1): 39- 56.

- Conference papers

1- **Akhavan**, R. and Zobeiri, M. 2003. Study of Stratification method used for volume estimation in the Caspian forests of Iran. The XXIst International Biometric Conference, 21-26 July 2002, Frieburg, Germany (Proceedings, page: 158).

2- **Akhavan**, R. and Zobeiri, M. 2006. Application of Geostatistics in Inventory of Natural Forests of Iran. Second International Nearest Neighbor Workshop, 5 -7 July 2007, Florence, Italy (Proceedings, page: 36).

3- **Akhavan**, R., 2008. Spatial variability of forest plantation stock using geostatistics in the Caspian region of Iran. Proceeding of LIFO 2008. 1-4 April 2008, Freising, Germany. (Proceedings, page: 77).

4- **Akhavan**, R. and Sagheb Talebi, Kh., 2010. Spatial patterns in untouched beech (*Fagus orientalis* Lipsky) dominanted stands within forest development stages in the Caspian region of Iran. Proceeding of XXIII IUFRO World Congress, Forests for the Future, 23-28 August, 2010, Seoul, Korea (Proceedings, page: 159).

5- Sagheb Talebi, Kh., **Akhavan**, R. and Parhizkar. P., 2010. Silvicultural studies in the virgin forests network of the Caspian region. Proceeding of XXIII IUFRO World Congress, Forests for the Future, 23-28 August, 2010, Seoul, Korea (Proceedings, page: 133).

6- Sagheb-Talebi, Kh., Mirkazemi, Z., **Akhavan**, R., Karimidoost, A., Maghsoudloo, M.K. and Moghadasi, D., 2011. Some structural characteristics in the Far East border of the distribution range of oriental beech (*Fagus orientalis* Lipsky) stands. Proceeding of the 9th international beech symposium (IUFRO), Ecology and Silviculture of Beech, 12-17 September 2011, Dresden, Germany (Proceedings, page: 26).

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