

Division of Mechanical Science and Engineering	Research field	Intelligent material systems	Lab. ID
			MS27
Laboratory web site	http://hydrogen.w3.kanazawa-u.ac.jp		
Research subjects			
<p>Oure research subjects are as follows;</p> <p>(1) Relationship between microstructure and hydrogen permeability of Nb-based multi-phase alloys for hydrogen separation and purification.</p> <p>(2) Structural change of Mg-based LPSO (Long Period Stacking Ordered) alloys during hydrogenation and dehydrogenation.</p> <p>(3)Production of functional polymer thin films by physical vapour deposition.</p> <p>(4) Deformation mechanism of amorphous polymer solids.</p>			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
Status of research such as experimental results, discussion, problems and so on is reported, and all of labo members discuss about it at the Labo meeting every week. Students have an opportunity to participate meetings held in Japan and foreign countries.			
Daily life in the laboratory, etc.			
All of students can use experimental apparatus such as arc melting, electron microscope, x-ray diffractometer and so on.			
Message or comments by the laboratory faculty staffs			
Opportunity of education through a research of metallic materials is provided for all students for the purpose of fostering engineers and researchers who play a important role all over the world. Students are required to concentrate your studies. Students can acquire an ability to perform by yourselves cyclic (1) planning of research, (2) executing of experiments, (3) discussion and (4) verification.			
Recent Master theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2017.3	Structural change in V-TiNi alloys under hydrogen atmosphere and relationship with microstructure		
2017.3	Hydrogen permeation characteristics of W added Nb-based multi-phase alloys		
2017.3	Effects of physical aging on the viscoelastic behavior of amorphous polymers.		
2017.3	Gas adsorption and permeation properties of the vapor deposition polymerization polyimide thin film		
2017.3	Effects of physical aging on yield behavior of amorphous polymer solid		
2016.3	Effects of physical aging on creep behavior of amorphous polymer solid		
2016.3	Structural changes in hydrogen atmosphere and hydrogen storage properties of Nb-Ti(Ni, Co) hydrogen permeation alloys		
2016.3	Structural changes and hydrogen absorption-desorption properties in Mg-based long period stacking ordered (LPSO) alloys		
2016.3	Surface properties of organic thin films deposited by reactive sputtering		
2016.3	Effects of microstructure on hydrogen permeability and cold rolling workability in V-TiNi alloys		
2015.3	Effects of aging on the yield behaviour of amorphous Poly(ethylene terephthalate)		
2015.3	Gas adsorption prtoperty of Polyimide films prepared Vapor deposition polymerization		
2015.3	Microstructure and hydrogen permeability of Pd-Ag-Cu ternary alloys.		
2015.3	Hydriding properties of Mg-based alloys with long Period Stacking Ordered structure.		
2014.3	Surface characterization of the films prepared by reactive sputtering of PEEK target		
2014.3	Plastic deformation of amorphou polymer solid in glassy state		
2014.3	Tribological properties of Polyimide films prepared by vapour deposited polymerization		
2014.3	Fatigue process of carbon fiber reinforced polymer composites		
2014.3	Microstructure and hydrogen permeability of Nb-based multi-phase alloys.		
2014.3	Structural changes of Nb-based multi-phase alloys under hydrogen atmosphere at elevated temperatures.		
2013.3	Investigation of the morphology of annealed amorphous Poly(ethylene terephthalate)		
2013.3	Effects of morphology of amorphous polymer on yield behaviour		
2013.3	Gas adsorption properties of heat-resistant polymer films prepared by RF-sputtering		

Recent Doctoral theses in these 3 years (+ more if appropriate)	
year.month	Thesis title (including English translation of Japanese thesis title)
2017.3	A study on the effects of two-phase structure on hydrogenation behavior of Nb-based hydrogen permeation alloys
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