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西村　顕

〔I〕学術論文（査読有）

No.	題　　目	発 表 誌 名	巻 号 頁	発表年	著 者 名
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〔II〕国際会議論文（査読有）

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〔III〕国際会議論文（査読なし）

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6	Approach to Optimize the Components Combination of PEFC for Target Operation Temperature Indicated by NEDO Road Map in Japan	The 6th International Conference on New Energy and Future Energy Systems	Abstract of the 6th International Conference on New Energy and Future Energy System (Invited Speech)	2021	Akira Nishimura
7	Numerical Analysis on Coupling Phenomena in Single Cell of PEFC under High Temperature Operation Condition than Usual	5th Edition of Appplied Science, Engineering and Technology Virtual	No Proceedings (Invited Speech)	2021	Akira Nishimura
8	Numerical Analysis of Through-plane Separator Shape on Temperature Distribution in Single Cell of Operated at Higher Temperature than Usual	3rd Global Webinar on Applied Science, Engineering and Technology	No Proceedings (Keynote Speech)	2022	Akira Nishimura
9	Impact of Components on Heat Transfer Phenomena in PEFC under Higher Temperature Operation than Usual	12th International Conference on Power, Energy and Electric Engineering	Abstract Book of 12th International Conference on Power, Energy and Electric Engineering (Invited Speech)	2022	Akira Nishimura

10	Effetive Utilization of Wide Wavelength of Light Composing Sunlight to Promote CO_2 Photocatalytic Reduction Performance	2nd Global Virtual Summit on Catalyst & Chemical Engineering	Abstract Book of 2nd Global Vertual Summit on Catalysts & Chemical Engineering (Invited Speech)	2022	Akira Nishimura
11	Feasibility Study on Energy Supply Chain Combinin Renewable Energy and Hydrogen	RENEWABLE MEET2022	No Proceedings (Keynote Speech)	2022	Akira Nishimura
12	Impact of Through-plane Separator Shape on Heat and Mass Transfer Phenomena in Single Cell of PEFC Operatad at Higher Temperature than Usual	6th Edition of Applied Science, Engineering and Technology Virtual	No Proceedings (Keynote Speech)	2022	Akira Nishimura
13	Investigation on Optimum Components Thickness of PEFC under Higher Temperature Operation than Usual	International Meet on Power and Energy Engineering	Abstract of International Meet on Power and Energy Engineering (Keynote Speech)	2022	Akira Nishimura

14	Analysis on Temperature Distribution in Single Cell of PEFC Operated at 373 K Simulated by Heat Transfer Model Considering Vapor Transfer	4th Global Webinar on Applied Science, Engineering and Technology	Abstract Book of 4th Global Webinar on Applied Science, Engineering and Technology (Keynote Speech)	2022	Akira Nishimura
15	Impact of Black Body Material Enhancing Gas Movement on CO_2 Reduction Performance of TiO_2 Photocatalyst	2nd Edition of Catalysis, Chemmical Engineering and Technology Virtual	No Proceedings (Keynote Speech)	2022	Akira Nishimura
16	Absorption from Ultraviolet to Infrared Light for Promotion of CO_2 Reduction with P_4O_{10}/TiO_2	CATALYSIS MEET2022	No Proceedings (Keynote Speech)	2022	Akira Nishimura
17	Optimization of Operation Condition for Membrane Reactor to Produce Hydrogen from Biogas Dry Reforming	5th Global Webinar on Applied Science, Engineering and Technology	Abstract Book of 5th Global Webinar on Applied Science, Engineering and Technology (Keynote Speech)	2022	Akira Nishimura

18	Mass Transfer Promotion by Black Body Material to Improve the CO_2 Reduction Performance of TiO_2 Photocatalyst	10th International Conference on Catalysis and Chemical Engineering	No Proceedings (Invited Speech)	2022	Akira Nishimura
19	Assessment on Energy Efficiency and CO_2 Emission Inhibition Effect of Renewable Hydrogen Supply Chain	2nd International Meet on Renewable and Sustainable Energy	Proceedings of 2nd International Meet on Renewable and Sustainable Energy (Keynote Speech)	2023	Akira Nishimura
20	Numerical Simulation on Effect of Separator Thickness on Coupling Phenomena in Single Cell of PEFC under Higher Temperature Operation Condition	Power and Energy Engineering Virtual	No Proceedings (Keynote Speech)	2023	Akira Nishimura
21	Mass Transfer Promotion by Black Body Material to Improve the CO_2 Reduction Performance of P_4O_{10}/TiO_2 Photocatalyst with NH_3	3rd Edition of Catalysis, Chemical Engineering and Technology Virtual	No Proceedings (Keynote Speech)	2023	Akira Nishimura

〔IV〕総説

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〔V〕著書

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〔VI〕特許

1. 特許第 5885103 号，発明の名称：風力発電と太陽光発電の 2 種類の発電手段で構成される発電システムの発電評価システム，発明者：西村顕，鎌田泰成，安藤俊剛，村田淳介

本特許の概要として請求事項および技術分野を以下に抜粋する.

【特許請求の範囲】

【請求項 1】

1以上のビルと，当該ビルが配置される敷地と，該敷地内に配置される風力発電手段と太陽光発電手段の2種類の発電手段とからなる複合発電手段と,該複合発電手段についての発電評価指数を算出する発電指数算出手段と，電力消費形態データベースから構成される発電評価システムであって，前記発電指数算出手段が，気象条件と，施設条件と，電力消費形態に基づいて前記複合発電手段について1以上の発電評価指数を算出し,前記気象条件が時間的に変動する風速,風向，日射時間帯，日射強度，気温を含み，前記施設条件がビルサイズ，ビル棟数，ビル配置，敷地面積を含み，前記2種類の発電手段の何れか一方の発電手段に設定される規制条件が，他方の発電手段に設定される前記規制条件を規制し，前記規制条件が少なくとも太陽光パネルの表面温度，太陽光パネル表面の風速（風力），ビルサイズ，ビル棟数，ビル配置，敷地面積であることを特徴とする発電評価システム.

【請求項２】

前記発電評価指数算出手段が，3次元流体解析ソフトを用い，少なくとも時間変動する気象条件の風速，風向および施設条件のビルサイズ，ビル棟数，ビル配置，敷地面積を考慮した風力発電手段に関する発電評価指数を算出することを特徴とする請求項1に記載の発電評価システム.

【請求項３】

前記発電評価指数算出手段が，前記太陽光発電手段の発電評価指数を算出するに当たり，少なくとも時間変動する太陽光パネルの表面温度，太陽光パネル表面の風速（風力）を考慮した太陽光発電手段に関する発電評価指数を算出することを特徴とする請求項1又は2の何れか1項に記載の発電評価システム.

【請求項４】

前記異なる消費形態に関する電力消費形態データベースと前記発電指数算出手段に基づき算出した発電指数を有する複合発電手段との時間的，季節的変動対応性を評価することを特徴とする請求項1に記載の発電評価システム.

【請求項５】

前記2種類の発電手段の何れか一方の発電手段に設定される前記気象条件と前記施設条件が，

他方の発電手段に設定される前記気象条件と前記施設条件を規制する因子として，太陽光パネルの表面温度，太陽光パネル表面の風速（風力），ビルサイズ，ビル棟数，ビル配置，敷地面積を考慮することを特徴とする請求項1に記載の発電評価システム．

【技術分野】

本発明は，気象条件として時間的に変動する風速，風向，日射時間帯，日射強度，気温を，また施設条件としてビルサイズ，ビル棟数，ビル配置，敷地面積をそれぞれ考慮した風力発電手段と太陽光発電手段の2種類の発電手段とからなる複合発電手段について，異なる消費形態に対応して敷設条件や運転条件を評価できる発電評価システムである．